Closing the Aspirations-Attainment Gap: Implications for High School Reform

A Commentary from Chicago

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Preface

High school reform is the next wave in America's increasingly urgent effort to overhaul education policy and practice. Over the past two years, MDRC has convened, with the National High School Alliance and the Council of the Great City Schools, a series of conferences focused on applying lessons from rigorous research to the challenges faced by low-performing high schools. With support from the Bill & Melinda Gates Foundation and the James Irvine Foundation, MDRC brought together policymakers, practitioners, researchers, funders, and other education leaders in November 2005 for three days of stimulating discussion at the second of these conferences, "Improving High Schools: Putting Knowledge to Work."

In this provocative commentary prepared for the conference, Melissa Roderick, Co-Director of the Consortium on Chicago School Research, zeroes in on a central question: What can policymakers and administrators do about the gap between the high aspirations of minority and low-income public high school students — most of whom want to go to college — and the low numbers who graduate with the skills they need to succeed there?

Using local data to drive home her point, Roderick estimates that fewer than 7 percent of 13-year-olds in the Chicago Public School system ultimately will graduate from high school by age 19, enter a four-year college, and obtain a degree within six years after high school graduation. Roderick contends that the primary goal of high school reform should be to tackle this problem head on: Preparation for college, rather than just high school graduation, should become the measure of high schools' performance. Roderick challenges urban high schools first to reduce dropout rates by focusing on students' transition to high school and their success in the ninth grade; and second, to make sure they are college-ready and receive the support and guidance they need to get into college and graduate.

To help high schools meet this challenge, MDRC has built a reliable body of evidence about effective, comprehensive high school reforms. Lessons from this experience are contained in a second paper from the conference to be published in late spring 2006, *Meeting Five Critical Challenges of High School Reform: Lessons from Research on Three Reform Models* by MDRC's Janet Quint. Additional work that focuses on district reform, adolescent literacy, and taking reform to scale is underway.

Gordon L. Berlin
President

Overview

The national consensus is that many public high schools, especially in urban areas, are the weakest link in the American education system, plagued by high rates of school dropout, persistently low performance, and disengaged students. The hope on the horizon is that the urban high school has become a central focus of reform. In this commentary, Melissa Roderick, Co-Director of the Consortium on Chicago School Research at the University of Chicago, asks: What should educators and policymakers be trying to accomplish as they reform high schools?

Ask any high school student in Chicago today what he wants out of high school, Roderick says, and the answer is almost without fail, "to graduate and go to college." This is a good starting place for high school reform. Closing the gap between students' rising aspirations and their educational attainment requires that high schools reduce dropout rates and begin to view college preparation and attendance as primary goals and important measures of their performance.

Dropout rates in urban school systems are driven largely by early academic difficulty in high school. Research from Chicago and recent results from MDRC's evaluation of the Talent Development High School model indicate that schools can make substantial progress by targeting their efforts on students' successful transition to high school — improving their skills before and initially upon entering high school — and reducing high rates of ninth-grade course failure.

Getting students to graduate from high school, however, will not make them college-ready if high schools do not help them to acquire the skills and credentials they need. Data from a new study of the transition to college among students in Chicago show that low levels of college readiness are seriously constraining their access to and performance in college. Roderick argues that strategies to change this must begin by linking together efforts to improve instruction, increase students' engagement and performance, and provide better guidance for students in college search, planning, and application. Instructional programs should develop not only students' content knowledge and basic skills, but also their precollegiate academic skills (writing and problem solving) and their noncognitive skills (performance norms, study skills, and learning strategies) — areas that have seldom been the domain of high school teachers.

Will the move to test-based accountability lead educators to focus on the set of outcomes, skills, and supports needed for high schools to increase students' on-track rates, grade point averages, and critical college-readiness skills? Roderick concludes that a singular focus on test-based accountability will most likely devalue a focus on grades, precollegiate academic skills, and noncognitive skills, in favor of an emphasis on the basic skills and content knowledge that are measured on tests. It will most certainly take resources away from college guidance and preparation and preventing ninth-grade failure. Test scores might improve, but at the high school level, this will lead to illusory progress.

Author's Biography

Melissa Roderick is a Professor at the School of Social Service Administration at the University of Chicago and Co-Director of the Consortium on Chicago School Research. She is an expert on urban school reform, high school reform, high-stakes testing, minority adolescent development, and school transitions. From 2001 to 2003, Roderick joined the administration of the Chicago Public Schools to establish a new Department of Planning and Development. At the School of Social Service Administration, she is the faculty director of a new program in community schools and youth development. She is a founding board member and currently serves as the chair of the board of North Lawndale College Preparatory Charter High School. Roderick has a Ph.D. from the Committee on Public Policy of Harvard University and a master's degree in public policy from the John F. Kennedy School of Government at Harvard University.

Author's Acknowledgments

The views presented in this paper are my own and I take full responsibility for the flaws in the argument. In this paper I draw heavily on my colleagues' work on high schools at the Consortium on Chicago School Research, specifically Elaine Allensworth's work on school dropout and her new work with John Easton on the importance of being "on track" freshman year. I also present data from my new study of the postsecondary transition of Chicago Public Schools students, which is being conducted with Jenny Nagaoka and Elaine Allensworth. Many of the ideas presented in this paper have been generated through hours of conversation with my colleagues and reflect our joint analysis of problems. Specifically I want to thank John Easton, Elaine Allensworth, Jenny Nagaoka, Eliza Moeller, Ginger Stoker, Greg Darnieder, Gudelia Lopez, and John Horan, who have contributed more than research findings and data analytic support to this paper. Thank you also to the staff of MDRC who offered helpful guidance in their reviews of the paper: Glee Holton, John Hutchins, Robert Ivry, James Kemple, Jason Snipes, and Janet Quint; to Margaret Bald, who edited the paper; and to Stephanie Cowell and Vivian Mateo, who prepared it for publication.

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Introduction

This first decade of the twenty-first century will most certainly be written into the history of American education as the era of high school reform. The national consensus is that public high schools, especially in urban areas, are broken institutions plagued by high rates of dropout, persistently low performance, and disengaged students who are seldom challenged or held to high standards. High schools are increasingly identified as the weakest link in our education system, a rudderless ship, impervious to reform. The most recent results of the National Assessment of Educational Progress, in which high school students' test scores showed little progress while those of younger students improved, have only added fuel to the fire.[1]

The hope on the horizon is that the American urban high school has become a central focus of reform. Initially spurred by the leadership of the foundation community, in particular the Bill & Melinda Gates Foundation and the Carnegie Corporation of New York, policymakers have turned their attention to high schools. New York, Chicago, Boston, and many other cities have begun major high school reform initiatives, initially focused on starting new schools and creating small schools. The president pledged his commitment to passing the No Child Left Behind Act for high schools and the National Governors Association directed attention to high schools in its 2005 Education Summit.

The flurry of activity around high schools has created a market for new ideas at the school, district, state, and federal levels. The move to test-based accountability will create an even greater demand for solutions. As high schools around the country begin to struggle with demands to raise test scores, administrators will be looking to the research and reform community for direction. School administrators and policymakers searching for solutions face what appears to be a dizzying array of improvement models. The question most often posed by reformers, district-level administrators, and high school principals as they survey their options is: What works in high schools? In this paper, I take a step back from that question and ask instead: Where are we trying to go? What should educators and policymakers be trying to accomplish as they reform high schools and what does research identify as the critical paths to those outcomes?

In the education research community, proposals for improving high schools have coalesced around the topics of instruction and "personalism," or student support. But these are largely inputs into the education process rather than outcomes and tell us little about what changes in those inputs are supposed to accomplish. Another approach is to ask: What do students and parents want? I have spent the last several decades conducting research and talking to students in Chicago's public high schools. In the course of three longitudinal studies — one conducted in the early 1980s, one in the mid-1990s, and one begun in 2005 — I have witnessed first hand the rise in educational aspirations of students at virtually all achievement levels. Ask any student in Chicago today what he wants out of high school and the answer is almost without

fail, "to graduate and go to college." Adolescents and their parents are keen economists. They know the facts. The rising economic payoff of any college education and declines in the earnings of workers who have not attended college mean that high school graduation and college attendance are seen as essential for effective participation in the economy. While we can debate whether college is right for everyone, the consensus among students and among parents is that college is important. This is a good starting place for high school reform. The value added of high school, then, should be to take that desire (aspirations) and translate it into reality (achievement, high school graduation, and preparation for and access to college).

Organization of the Paper

This paper is organized around three central questions. First, what should be the primary goals of high school reform and what is the critical set of outcomes that matter for students? Second, what do we know about the strategies schools could use to pursue those goals? And third, what are the implications of these strategies for the development of high school reform models and approaches and to what extent does test-based accountability impede or promote reform in these areas? I begin by introducing the central policy problem — the gap between students' rising aspirations and their educational attainment. This paper then uses data from Chicago as a case study for focusing a discussion on what it will take to reduce dropout rates and increase postsecondary preparation and access for urban students.

I first draw on research from Chicago and recent results from MDRC's evaluation of the Talent Development High School model to argue that urban school systems can make substantial progress in reducing dropout rates by targeting their efforts on students' successful transition to high school and, in particular, on reducing high rates of course failure in freshman year. I argue that dropout rates in urban school systems are driven largely by early academic difficulty in high school and the lack of response to that difficulty. I present a set of strategies for taking on the dropout problem directed to improving students' capacity to do high school-level work and ensuring that students have the structures and supports necessary to manage the academic, social, and developmental demands of high school environments.

Getting students to graduate from high school, however, will not make students college-ready if high schools do not help them to acquire the skills and credentials they need. A critical step in closing the aspirations-achievement gap is getting high schools to begin to view college preparation and attendance as primary goals and important measures of their performance. This poses a unique challenge for high school reform, for while a focus on high school graduation is quite consistent with the historical development of the American high school over the last century, the general high school has never been expected to prepare students for postsecondary education. The third section of this paper begins by placing this new expectation in historical context and then turns to the question: What would it mean to focus on preparation?

I present data from a new study of the transition to college among students in Chicago to argue that low levels of college readiness are seriously constraining urban students' college access and performance. Strategies to change this must begin by explicitly linking together efforts to improve instruction, increase students' engagement and performance, and develop strong guidance and information structures. This requires building strong instructional programs that develop students' content and precollegiate academic skills (for example, writing and problem solving) and their noncognitive skills (performance norms, study skills, and learning strategies) — areas that have seldom been the domain of high school teachers. It means creating the normative environments and the guidance and information structures that students need to aspire to high performance and translate readiness into college access.

The final section turns briefly to the implications of this paper for the design and evaluation of high school reform initiatives and for policy, particularly in the area of accountability. I argue that attention to school dropout and college preparation requires a different level of focus on efforts to improve instruction and increase personalism in high school, currently the stated goals of most reform approaches. It may equally require a different focus and reevaluation of the use of accountability, particularly test-based accountability, at the high school level, currently the most important policy lever at the district and federal levels.

Some of the findings presented are preliminary and raise questions that will be pursued in further research. The goal of this paper is to use data to provide a broad picture of the current state of one school system within the larger research and policy context and to provoke discussion and debate about what it will take to change these outcomes for students. I hope this paper can provide a larger framework for evidence about specific reform efforts and add to the discussion of the challenges and goals of high school reform over the next decade.

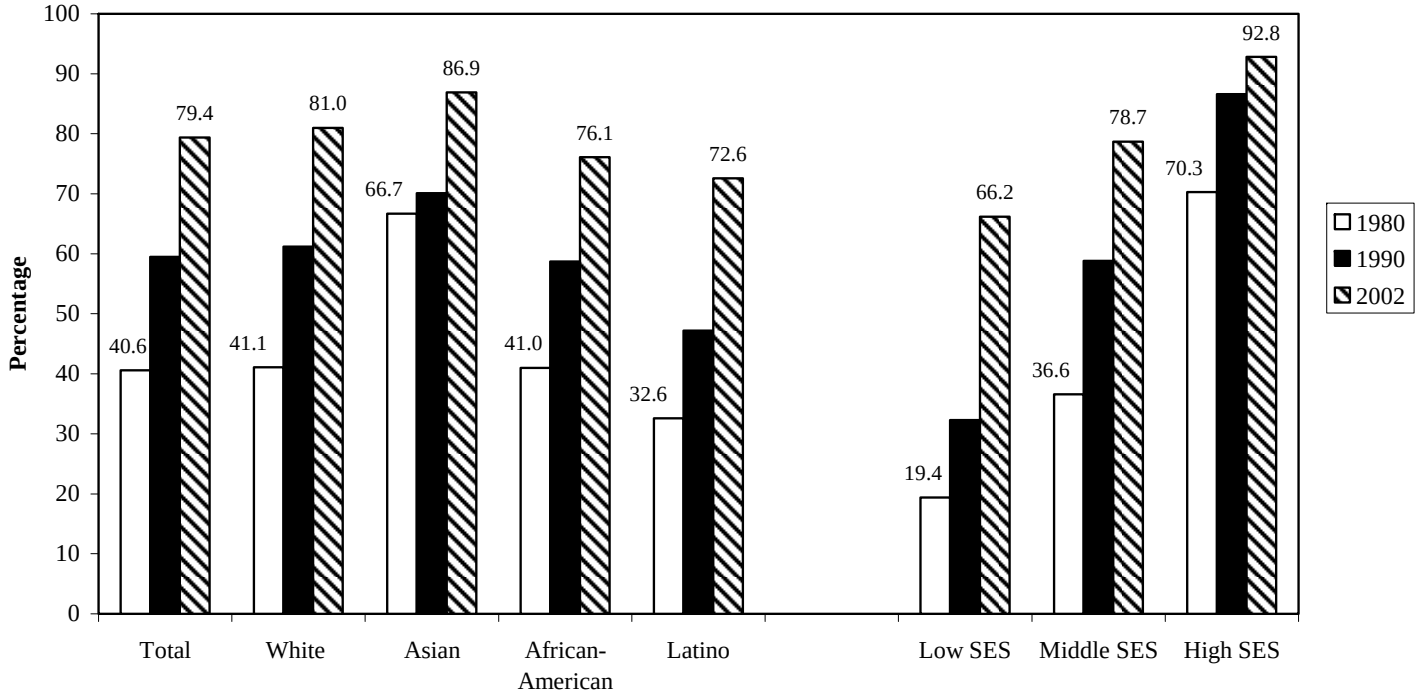
The Ambitious Generation[2]

In the last two decades of the twentieth century, a dramatic transformation occurred in high schools. Students' aspirations changed, reflecting a new economic reality. Nationally, the percentage of tenth-graders who stated that they hoped to obtain a bachelor's degree or higher doubled, from 40 percent in 1980 to 80 percent in 2002 (see Figure 1). These rising aspirations were shared across racial and ethnic groups, with the largest increases occurring among low-income students. These trends are also reflected in urban school systems. In the Consortium on Chicago School Research's 2005 survey of high school students, 80 percent of seniors stated that they hoped to earn a bachelor's degree or higher, similar to national data, and an additional 14 percent aspired to attain a two-year or vocational degree.[3]

Educators often dismiss adolescents' stated aspirations, arguing that students are just saying they want to go to college because they think it's the right thing to say. Last year, I began

Figure 1

Percentage of U.S. 10th-Graders Who Expect to Attain a Bachelor's Degree or Higher, 1980, 1990, 2002, by Race/Ethnicity and Socioeconomic Status



SOURCE: U.S. Department of Education (2004).

NOTE: A student's socioeconomic status (SES) was determined using parents' and students' reports of parents' educational attainment, occupation, and family income.

a longitudinal study of 105 juniors in three predominantly African-American and Latino Chicago high schools.[4] In the first interview, we asked students about their goals and plans after graduation. Over 90 percent of juniors stated that they hoped to attend a four-year college. The reasons students gave for wanting to go to college suggested that they saw it as an essential pathway to their future. Students emphasized the perceived economic utility of a college degree. They talked about the realities of the labor market, the more immediate experience of their parents and family, and the need for a college education to repay their parents' sacrifices. Typical explanations that students gave for wanting to go to college included:

> "For my personal gain, because I want to live a good live and seeing the life that my parents are living because they didn't go to college, just went to high school. I see the kind of careers they have, so it doesn't seem like a very happy life."
>
> " 'Cause you can't even work at McDonald's without a high school diploma. To get a job, gotta go to school."
>
> "Like my dad says, he's working in the company, a metal company, and he's always complaining about his back and everything like, 'I don't want to be suffering like this.' And so he's the one that's motivating me."
>
> "A good life and I also want a good life for my parents, 'cause they work for me and they work hard. They both work in factories, been working there like 20 years, so I want to get a good job so they don't have to work anymore.…If I don't get good grades, can't get into a good college. If I don't get into college then I can't get a career; no career, no good paying job, no white picket fence."

The Aspirations-Attainment Gap

The central policy problem is that these aspirations are not translating into high school graduation, college attendance, and, ultimately, college graduation. The statistics are well known but worth repeating. Increasing numbers of minority and low-income high school graduates are making the transition to college, though their participation rates continue to lag behind those of middle- and higher-income students.[5] Minority and low-income students, however, are often going to college with low levels of qualifications. Berkner, Chavez, and Carroll analyzed the high school performance of seniors who participated in the National Educational Longitudinal Study of 1988 (NELS88) and graduated in 1992.[6] These researchers estimated that less than half of African-American and Latino seniors in NELS88, compared with 68 percent of white

seniors, graduated with test scores, grade point averages (GPAs), and coursework that would even minimally qualify them for admission to a four-year college.[7]

Many factors in addition to qualifications affect which colleges students attend and their chances of persisting to graduation. But a central determinant of college performance is what happens in high school — the rigor of students' coursework and the skills they develop.[8] Low levels of qualifications limit minority and low-income students' access to four-year colleges and place them at risk of struggling academically. Even among students who plan to attend a four-year college, minority students are much more likely to end up going to a two-year college or not at all.[9] Once in college, minority and first-generation college students are much more likely to be placed in remedial courses that do not count for college credit.[10]

The bottom line is that rising college enrollment is not translating into concomitant increases in degree attainment. From 1990 to 2004, the percentage of African-American young adults aged 25-29 who had graduated from high school and attended some college increased by 16 percentage points, so that by 2004 over half of African-American young adults had attended some college. But only 17 percent of them had graduated, an increase of just 4 percentage points since 1990. The lack of progress in college completion is particularly dire for Latinos, who lag both in college attendance and completion. In 2004, less than one-third of Latino young adults had attended some college and only 11 percent had obtained a bachelor's degree or higher, a rate only slightly higher than it was about 15 years earlier.

These statistics are far worse in urban areas and even more problematic, considering the high numbers of urban students who do not make it to graduation. For a broad overview of the problem, let us begin with a basic simulation. Consider a cohort of 13-year-olds in the Chicago Public Schools (CPS). Of 13-year-olds in 1998-1999, most of whom entered high school the next year, only 46 percent graduated from high school on time four years later.[11] Taking transfers into account and allowing students more time to graduate, only 54 percent of Chicago 13-year-olds graduated by age 19 (by 2002-2004).[12] Among that graduating class, 59 percent enrolled in a college within the year after graduation, based on data from the National Student Clearinghouse.[13] Only 34 percent of these CPS graduates, however, enrolled in a four-year college. We estimate that the proportion of CPS graduates who might actually enroll in college may be approximately 5 percent higher, though most of the difference would be made up by enrollment in two-year proprietary schools.[14]

Students who entered four-year colleges in 2002, 2003 and 2004 have not yet had time to graduate. Our analysis of college completion of previous CPS cohorts (the 1998 and 1999 graduating cohorts) found that only 35 percent of CPS graduates who attended a four-year college in the year after high school graduation graduated from a four-year college within six years.[15] Unless the completion rates of more recent cohorts are dramatically better than those of

prior cohorts, which national trends suggest will not be the case, we would expect that, at the low end, approximately 6.5 of every 100 13-year-olds in the CPS ultimately will graduate from high school by age 19, enter a four-year college, and obtain a four-year college degree within six years after high school graduation (see Figure 2).[16]

As seen in Figure 2, these rates are significantly lower for African-American and Latino students. The prospects are particularly dire for minority males, among whom the comparable numbers would be 2.5-3.0 percent. This is an underestimation of the proportion of CPS students who might eventually graduate from a four-year college, because some students will delay enrollment, some who enter two-year colleges will eventually earn four-year degrees, and some in four-year colleges will take more than six years to graduate. But this low-end estimate suggests that only 6.5 percent of 13-year-olds in CPS can be expected to graduate from a four-year college by the time they enter their mid-20s.

The recipe for high school reform seems clear. First, get students to graduate from high school. Second, get them to attend college, particularly four-year colleges. And third, ensure that they get the preparation in high school that will allow them to be successful in college. The remainder of this paper argues that reaching these three goals will require a set of focused strategies that closely link instructional improvements with efforts to give better support to students and change the prevailing academic norms of high schools. I first turn to the question of school dropout and second to the thornier question of college preparation and access.

What will it take to reduce dropout rates?

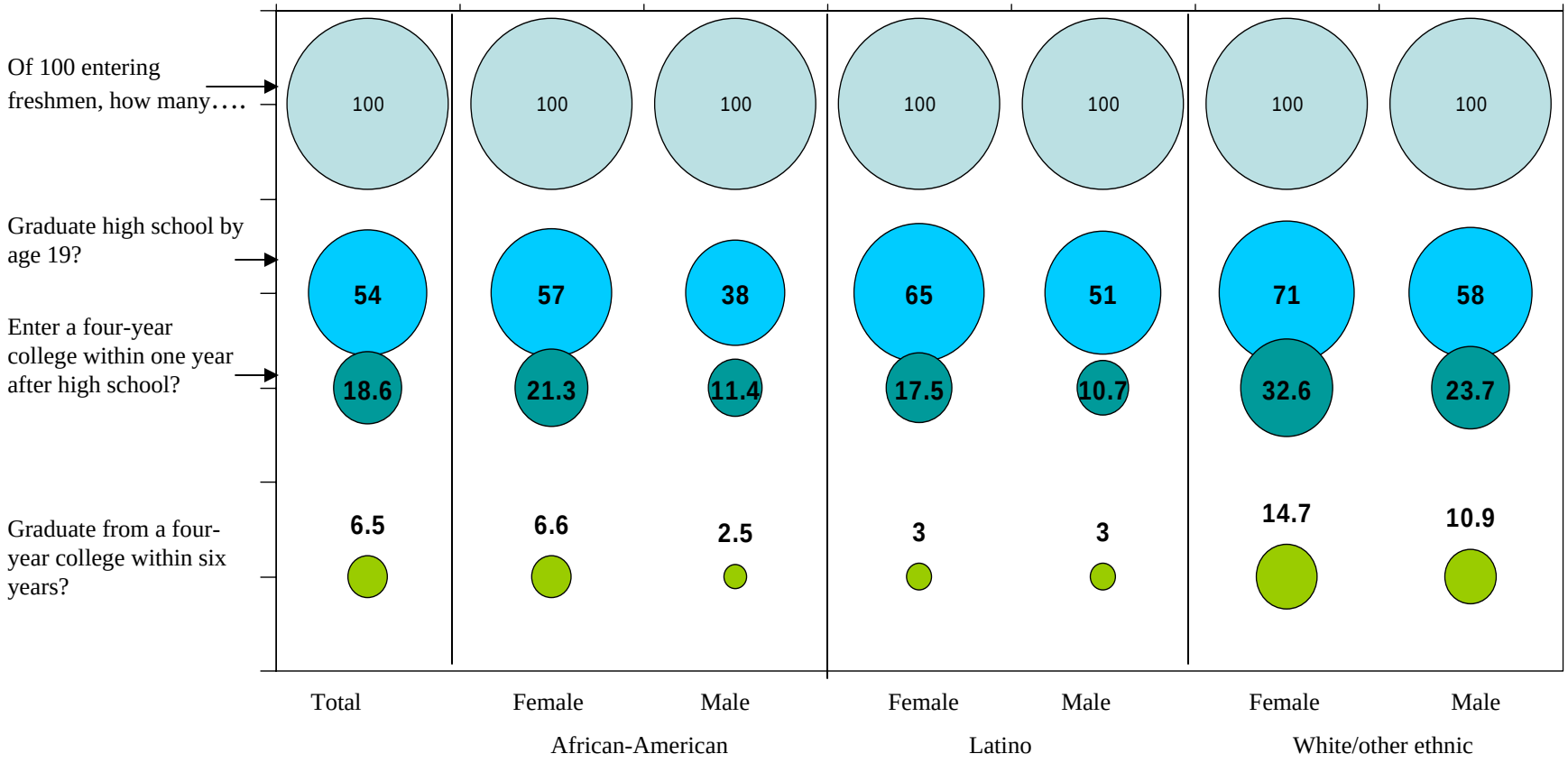
Why would students who have high aspirations and are aware of the costs of dropping out leave high school before graduation?[17] I would argue that seldom do students today decide to drop out. Too often, students are "dropped" from high school rolls because of nonattendance or are counseled out by school staff. Whether students are counseled out, leave to try another angle, or just drift out, dropping out is most often a process centered around academic failure, with students having the aspirations but not the academic or developmental skills or supports to manage high school. They begin to have difficulty, fall further and further behind, and eventually realize that they simply cannot make it to graduation. Most of these difficulties happen in the transition to high school, as students begin to struggle with the academic, social, and developmental demands of their high school environments. Reducing dropout rates, then, begins by building students' capacity to do high school-level work, ensuring that they have the structures and academic supports to transition successfully and that they continue to pass their classes and move through high school without falling behind.

This is a simple idea and an important first step. There is a tendency among educators when talking about dropouts to immediately move to the extremes of the problem — situations

Figure 2

Estimated Progress Toward a Four-Year College Degree among a Cohort of 13-Year-Olds in the Chicago Public Schools

Out of 100 13-year-olds, how many can be expected to graduate from high school by age 19, enter a four-year college, and graduate from a four-year college within six years (by age 24 or 25)?



SOURCE: Estimates are derived from the proportion of 13-year-olds in 1998-1999 who graduated (see Figures 4 and 5), the proportion of graduates in 2002-2003 who entered a four-year-college (see Table 1), and the proportion of CPS graduates from two previous cohorts (1988 and 1989) who graduated from college within six years (see Figure 10). The estimates vary by only 1 percentage point if the proportion of students enrolling in four-year colleges ultimately increases by up to 5 percent or if graduation rates from four-year colleges ultimately rise by the same amount.

that have nothing to do with students' experiences in school.[18] They note, for example, that students drop out for reasons that are beyond a school's reach — problems at home, parenthood and child care responsibilities, or social difficulties such as gang involvement. A focus on these explanations for why students drop out leads to policy approaches that do not require changing existing practices or improving the core capacity of schools, but involve adding on programs, alternatives, or special services to serve these students, who do not fit the traditional high school model. Thus, the belief that high school students drop out for noneducational reasons leads educators to perceive dropping out as a problem they do not produce, cannot influence, and are not accountable for.

This logic — that attention to dropout rates is outside the traditional reach of high schools — while powerful, is largely unsubstantiated by the data. Beyond the rhetoric, recent research in Chicago and on interventions during ninth grade demonstrate that significant progress can be made through an approach focused on: (1) improving the achievement of students prior to high school and providing more transitional academic supports; and (2) ensuring that students are passing their courses and getting off to a good start through a combination of a focused instructional program, reduction in academic and developmental demands, and structured support.

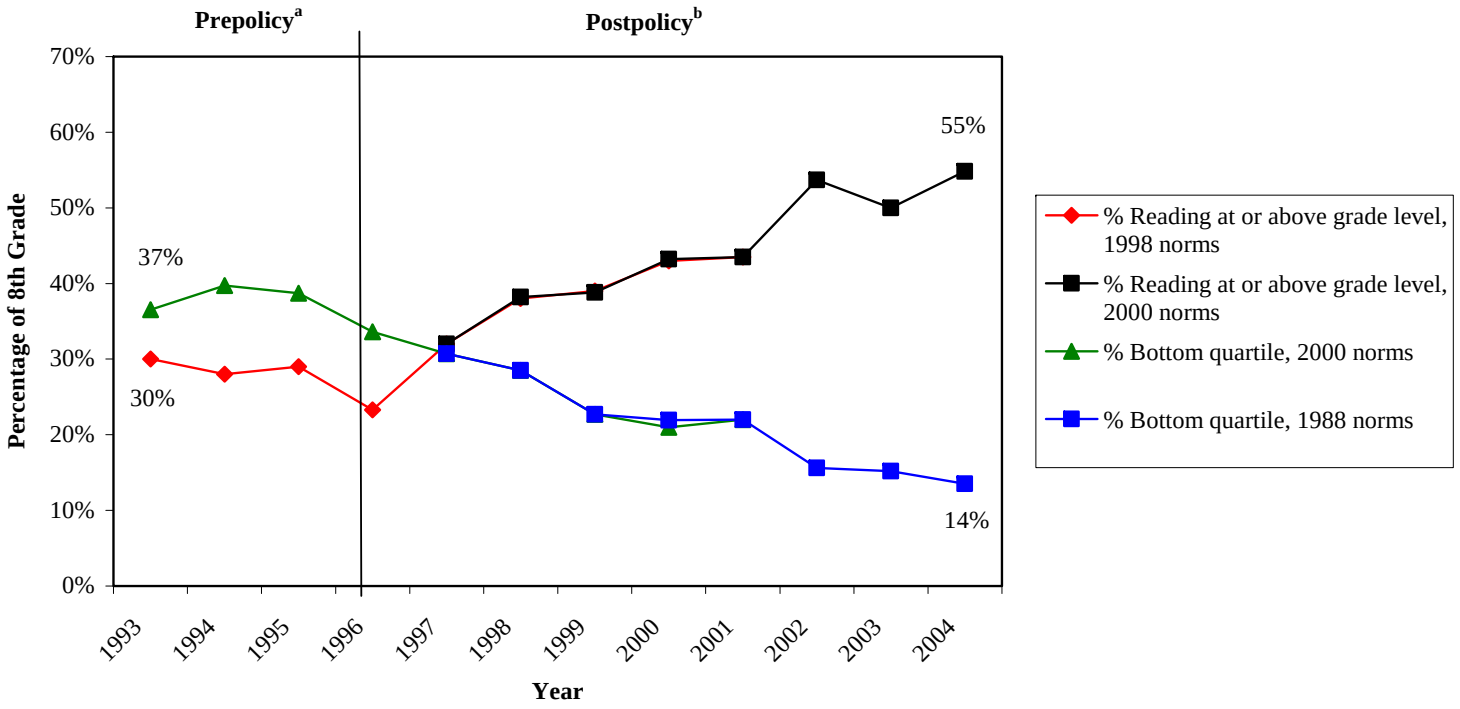
Strategy 1: Increase students' readiness for high school-level work

Since 1988, Chicago has been an epicenter for educational reform, beginning with a series of decentralization reforms in the late 1980s and followed by the mayoral takeover of the school system in 1995.[19] In the second wave of reform, from about 1995 to 2002, the new administration implemented an ambitious accountability program; ended social promotion in the third, sixth, and eighth grades; and made significant investments in infrastructure, new school development, and preschool and summer programs.[20] Most of these reforms were directed at Chicago's elementary schools, which typically run from kindergarten through eighth grade, and the small number of middle schools. In 1996, the new administration also instituted tougher high school graduation requirements, raising the number of credits needed for graduation and requiring all students to take a college preparatory sequence that included three years of mathematics and laboratory science.[21]

While there is much debate over which period and which particular elements of reform should get the most credit, there is widespread agreement that the elementary schools improved.[22] Figure 3 presents the percentage of eighth-graders whose reading test scores on the Iowa Test of Basic Skills (ITBS) placed them at or above national norms and the percentage whose test scores were in the bottom quartile of the national distribution from 1993 to 2004. The chart shows two series of data, because the CPS "renormed" the ITBS in the middle of the period. The percentage of students reading at or above national norms and the percentage with test scores in the bottom quartile are crude indicators. These dramatic improvements, however,

Figure 3

Performance of Chicago 8th-Graders on the Iowa Test of Basic Skills in Reading, 1993-2004: Percentage Reading At or Above Grade Level on National Norms and Percentage of 8th-Graders with Reading Score in the Bottom Quartile on National Norms



SOURCE: Author's analysis of Chicago Public Schools records.

NOTE: [a]Prepolicy refers to test score trends before the implementation of high-stakes accountability in 1995-1996.
[b]Postpolicy refers to test score trends after the implementation of accountability programs linked to test score results.
The first series shows trends in the ITBS when scored using 1988 national norms and the second shows trends using more recent 2000 norms. In 2001, the Chicago Public Schools moved to 2000 norms and recalibrated students' scores back to 1997 to allow for analysis of trends.

are also observed if we move to more rigorous measures, such as equated test scores; if we include special education students; or if we look at trends in test scores by age rather than by grade to adjust for increases in grade retention that occurred after 1996.[23]

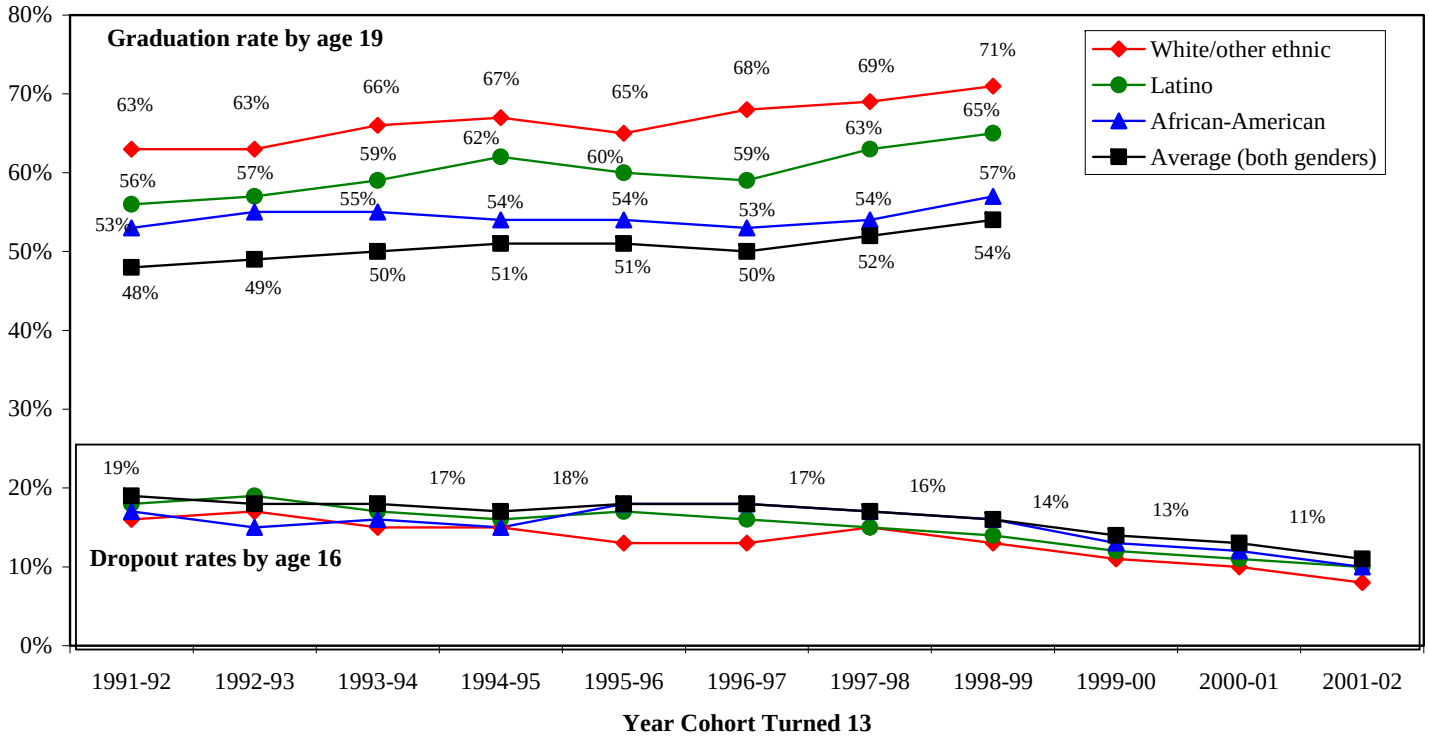
Chicago provides an important case study of whether improving students' basic skills prior to high school will lead to improvement in graduation rates. Figures 4 and 5 show trends in dropout and graduation rates by race and gender for successive cohorts of CPS 13-year-olds.[24] Dropout rates were relatively flat in the period before 1997. Graduation rates improved modestly in the 1995 and 1996 cohorts and then began to rise rapidly after 1997. As seen in Figure 3, this correlates with the increase in test scores among eighth-graders. The positive trend is more marked in recent cohorts, where we are not able to look at long-term graduation rates but are able to assess dropout rates by age 16. Dropout rates by age 16 declined from 18 percent in the 1996 cohort to 11 percent in the most recent cohort. Improvements have been much more pronounced among Latino and white students than among African-Americans, also reflecting test score trends. Only 38 percent of African-American males who were 13 years old in 1998 graduated within five years, by spring 2004.

These figures show a strong correlation between the rise in elementary school achievement in Chicago and graduation rates, but it is important to note that a lot was happening in Chicago during this period.[25] Consortium researchers have looked carefully at the determinants of the decline in dropout rates, using analyses that controlled for changes over time in (1) the entering test scores of students; (2) the average age, retention status, and racial, ethnic, and socioeconomic characteristics of students; and (3) the distribution of students across schools because of the opening of magnet and charter schools.[26] Contrary to predictions, the move to more college-oriented graduation requirements in 1996 was not associated with an increase in dropout rates. Graduation rates actually improved slightly in 1997 and 1998 cohorts because students were taking more core subjects and thus were accumulating more credits, getting through high school faster.[27] In cohorts after 1996, moreover, most of the decline in dropout rates can be explained by improvements in the academic achievement of students leaving elementary school.

To restate, with the exception of students who faced high probabilities of retention, the overall likelihood of dropout or graduation for students with a given level of achievement did not change dramatically during this period: For example, a student who entered high school at national norms was no more or less likely to drop out in 1996 than in 2000.[28] But students with higher achievement are, on average, less likely to drop out. Thus, the rise in achievement meant that more and more students were entering high school with achievement levels that suggested that they would be prepared to do high school-level work and would therefore be less likely to drop out.

Figure 4

Graduation Rates by Age 19 and Dropout Rates by Age 16 for Cohorts of 13-Year-Old Females in the Chicago Public Schools, by Race/Ethnicity: 1991-1992 to 2001-2002 School Years

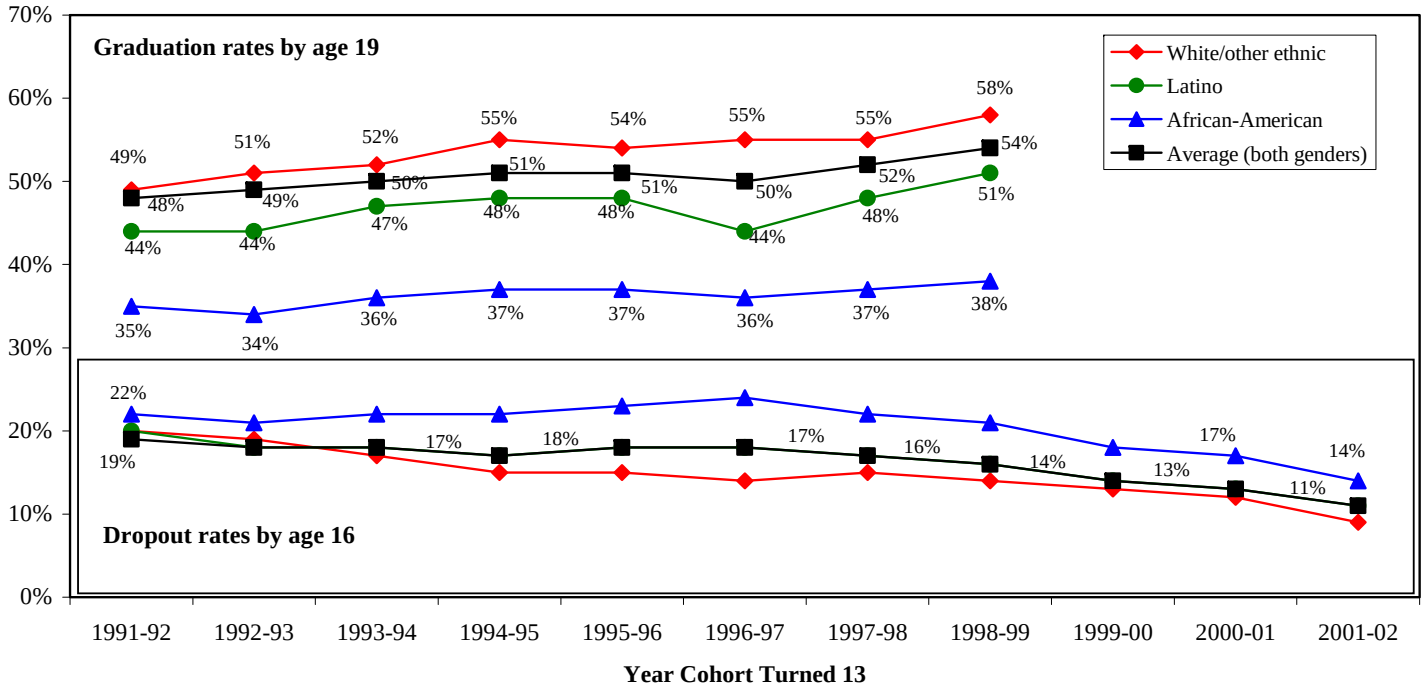


SOURCE: Allensworth (2005).

NOTE: System average = both genders.

Figure 5

Graduation Rates by Age 19 and Dropout Rates by Age 16 for Cohorts of 13-Year-Old Males in the Chicago Public Schools, by Race/Ethnicity: 1991-1992 to 2001-2002 School Years



SOURCE: Allensworth (2005).

NOTE: System average = both genders.

This analysis suggests a clear strategy for cutting dropout rates: Improve the ability of students to do high school-level work. There are multiple ways to approach this task. It is beyond the scope of this paper to present the full range of available policy approaches and evaluate their potential efficacy. An important question for high school reform and evaluation is: To what extent should the strategy for increasing high school preparedness focus on the middle grades, as opposed to the ninth grade? The approach in Chicago focused on the middle grades. Another reform approach is to provide extra support for students who enter high school with relatively weak skills, particularly in reading and mathematics. This is the approach taken by the U.S. Department of Education's recent initiative on adolescent literacy and the Talent Development's Ninth Grade Success Academy model, discussed below. The Success Academy model goes further, however, by combining academic support with a focus on decreasing the developmental demands students face in the transition to high school and concentrating the ninth-grade curriculum on transitioning students to high school-level work. Data from Chicago suggest that this focus on the ninth grade is equally as important.

Strategy 2: Focus on course failure and on ninth grade

Chicago's experience can be interpreted as either promising or cautionary. On one hand, it serves as a hopeful and dramatic counterexample to popular conceptions of the dropout problem. Chicago's school reform did not change students' home lives, remove them from poverty, or create better neighborhoods for them. Raising their pre-high school achievement alone appeared to pay off in reducing dropout rates. On the other hand, these same data can be cited as an example of how simply raising student achievement prior to high school will not solve the problem. At a time when almost half of Chicago's students were entering high school reading at or above national norms, how could it be that 11 percent of 13-year-olds dropped out by age 16 and a projected 40 percent would not make it to graduation?[29] While there was evidence that elementary schools improved in Chicago, there was little progress at the high school level.

There is growing recognition that the transition to high school is a critical juncture in students' school careers. As students move to high school, particularly in urban school systems, they experience dramatic changes in their classroom and school environments.[30] The number of their classes and teachers increases, as does the size of their school and peer group. The content and skill demands of courses increase significantly, while at the same time, students are experiencing more independence and declines in academic support. It is hard for any student to be "ready" to handle these new challenges without appropriate structure and support, particularly in difficult high school environments. Research on the importance of the transition to high school suggests that a significant piece of the remaining puzzle about the dropout process is the difficulty students encounter during ninth grade.

Figure 6 presents results from a recent Consortium report on the importance of being "on track" in freshman year. The on-track measure is an indicator of ninth-grade performance that signifies whether students leave freshman year on track to graduation. A student is considered on track if she has accumulated five full course credits (the number needed to be promoted to tenth grade) and has no more than one semester F in a core subject (English, mathematics, science, or social studies) by the end of ninth grade.[31] Among ninth-graders who entered CPS high schools in 2000, 58 percent were on track at the end of freshman year and 81 percent of these on-track students graduated within four years. Freshmen who were not on track (42 percent of all freshmen) had a graduation rate of only 22 percent. Thus, students who were on track by the end of their freshman year were more than three and one-half times more likely than off-track students to graduate in four years.

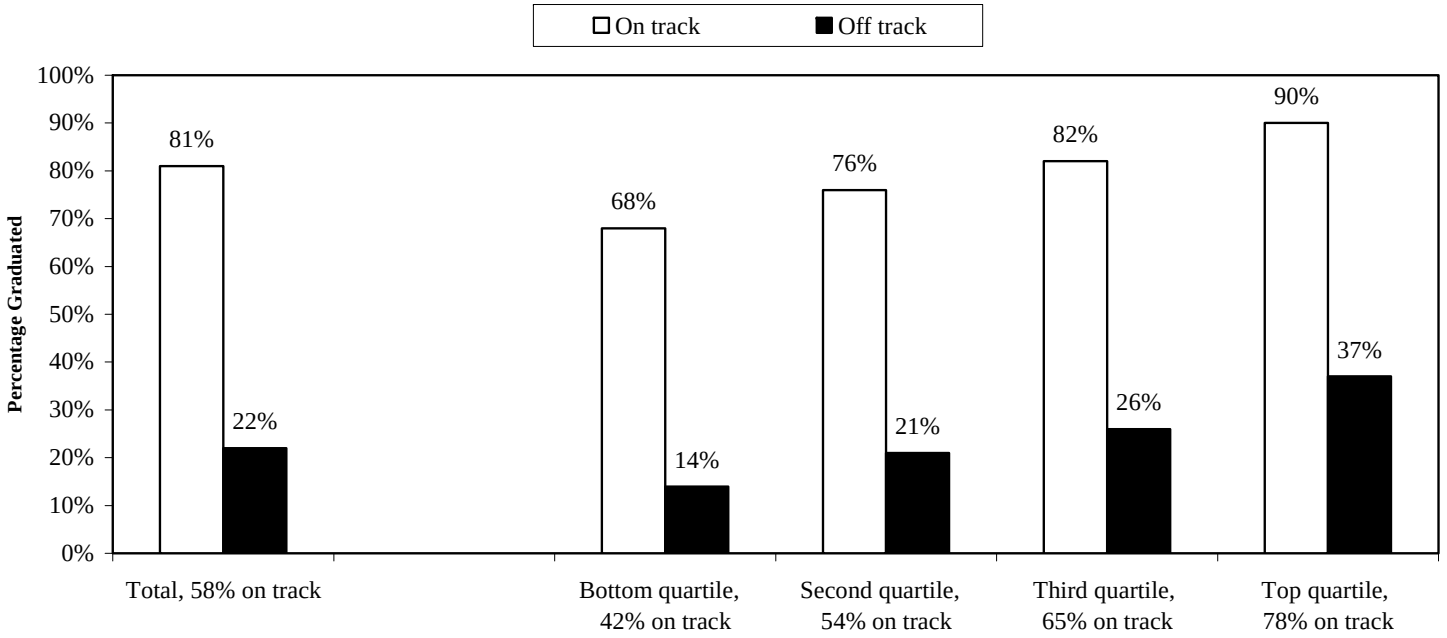
It is important to note that, while academic difficulty was more prevalent among low-achieving students, it was not isolated to them. Of ninth-graders who entered CPS with test scores in the third quartile (roughly equivalent to being at the third quartile on national norms), fully 35 percent were off track at the end of freshman year and only one-quarter of these higher-achieving students graduated, a rate more than three times lower than their counterparts with similar test scores who had more successful transitions to high school. Thus, despite their skills, many of these freshmen had difficulty in ninth grade, and these students were very unlikely to graduate.

Differences in the entering characteristics of students explain little about the relationship between being on track in freshman year and graduation.[32] This relationship holds true within racial and ethnic groups. Thus, a student's freshman year performance is strongly associated with the likelihood of graduation, independent of prior achievement and other demographic characteristics. Figure 6 demonstrates this finding. Many students with weaker skills do manage to be successful in freshman year and, if they are, they have much higher probabilities of graduating. Fully 42 percent of students who entered high school in the bottom quartile of the CPS achievement distribution were on track for graduation at the end of freshman year. Of those who were on track, 68 percent graduated four years later, compared with only 14 percent of students who were off track.

This does not mean that entering test scores don't matter. Students with lower test scores are more likely to be off track freshman year and are less likely than their higher-achieving counterparts to graduate, whether they are on or off track. But as seen in Figure 6, and as confirmed in more rigorous analyses, the difference in the probability of graduation for students across achievement quartiles is not nearly as large as it is between students who are on and off track within achievement quartiles.

Figure 6

Four-Year High School Graduation Rates by Freshman On-Track Status and by Incoming Reading and Mathematics Achievement: Students Entering High School in September 2000



Graduation rates and on-track status of freshmen by their entering 8th-grade achievement, in quartiles

SOURCE: Allensworth and Easton (2005).

NOTE: Students who dropped out or transferred out of the Chicago Public Schools before the end of the school year are not included in these calculations.

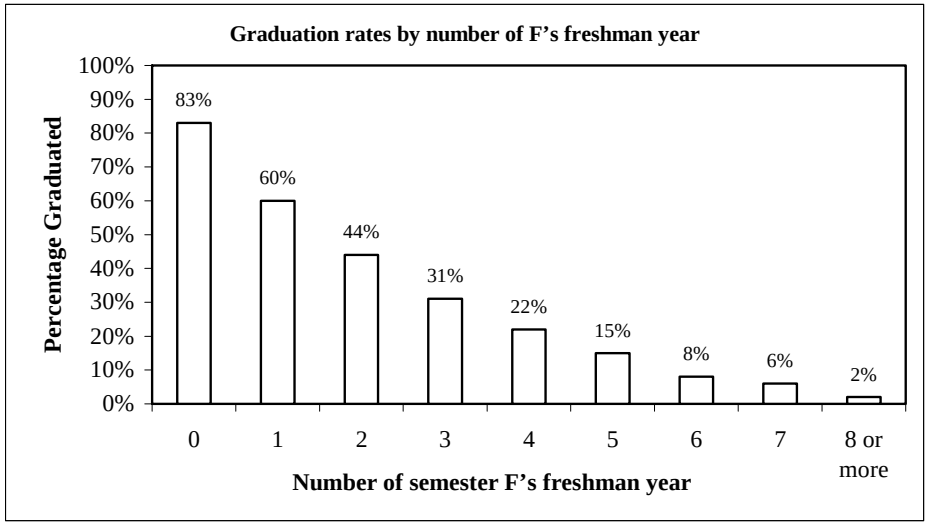
There is a common perception that students who are failing courses in freshman year are problematic students who are substantially disengaged, who often cause significant problems in the school, and essentially have one foot out the door. It is important to understand that most freshmen who fail courses are having difficulty in only one or two courses and that even this level of course failure is strongly associated with an increased likelihood of dropping out. Figure 7 shows the relationship between dropping out and failing courses in major subjects by the number of semester F's students accumulate in freshman year. Two semesters of a course equals one full year of a subject. If the "on-track" rate was simply an indicator of students who had fully disengaged from school and were essentially early dropouts, we would see a high proportion of students with multiple course failures. Failure, moreover, would be predictive of dropout only among these high-failure students. Instead, what we see is that even one semester failure is associated with a substantial increase in the risk of dropping out.

Fully 49 percent of first-time freshmen failed one or more semesters in a major subject, but most of these ninth-graders failed only a limited number of semesters. Looking only at those who failed courses, nearly half (44 percent) of freshmen who failed in a major subject had two or fewer F's (or up to one full core course) and two-thirds failed four or fewer semesters (up to two core courses). Most freshmen in CPS take eight semester credits in core subjects (four full courses). Students who are failing four or fewer semester credits, then, are students who are attending school regularly and are passing their other major subjects. They are students who, for a variety of reasons, are struggling in a subject or subjects and need intervention to get back on track. Another one-third of students who failed are struggling significantly and fit the composite of those who are substantially disengaged. Fifteen percent of all freshmen failed the majority of their core courses (five or more semester F's) and a small but important group of freshmen (4 percent) failed all their major subjects. But the picture that emerges is that the majority of these off-track students are still in school and are not failing across the board.

These data raise a variety of questions about what is happening in the transition to high school. Why is being off track and having even one semester failure in a major subject in freshman year such an important predictor of not graduating? And why are ninth-graders with similar incoming achievement test scores failing courses while others are passing? We are pursuing these questions in follow-up research. The problem is not only that failure is commonplace in urban schools, but also that there is little recovery from failure. Once students have trouble, there is often no coordinated response to address their needs. Students who fail a course are immediately placed in a catch-up position. In major subjects, they must complete the course credit to meet graduation as well as promotion requirements and often must attend summer school. Students who fail more than two semesters cannot get back on track in the summer, because summer school is often not structured to allow them to make up more than one full course credit. Failure in a course, moreover, suggests that a student is struggling with the material and skills presented in that course.

Figure 7

Graduation Rates by Number of Semester F's in Core Courses in Freshman Year and Distribution of Freshmen, by Number of F's:
Students Entering High School in September 2000



Distribution of freshmen by number of F's

Number of Semester F's	Number of students	Percent of total	Percentage of students with F's
0	12,038	51%	
1	3,041	13%	26%
2	2,053	9%	18%
3	1,508	6%	13%
4	1,272	5%	11%
5	1,027	4%	9%
6	903	4%	8%
7	717	3%	6%
8 or more	1,059	5%	9%

SOURCE: Allensworth and Easton (2005) and unpublished calculations.

NOTE: Core courses refer to major subjects: English, mathematics, science, foreign language, and social studies. Students who dropped out or transferred out of the Chicago public schools before the end of these school years are not included in these calculations.

Too often in high school, students move on to the next semester and the next year without mastering the course material and with little academic intervention; the probability is high that they will also fail the next course. Most important, failure is a red flag for a problem — an individual student's problem with a class, many students' problems with a teacher, or a signal that a student is having difficulty managing the academic demands of high school. Without help to turn that behavior around, there is little prospect that a student will develop his own intervention. Many high school educators believe strongly that failing a student is an effective intervention — sending a message that he needs to get serious and be more motivated. But there is little evidence to suggest that this works. Eric Camburn and I (1999) found that students who failed a course in the first semester were more likely to experience even greater academic difficulty the next semester than they were to improve their performance.

Early academic difficulty in high school that begins a downward spiral in school performance was also the central pattern of behavior I observed in my qualitative longitudinal study of the transition to high school. I watched as many freshmen who struggled in the transition tried to hold on to their aspirations, resolving each semester to turn themselves around, go to class, and do their homework, while falling further and further behind and ultimately dropping out.[33] The central conclusion is that, while there is a group of freshmen who appear to be significantly disengaged in high school, they do not represent the majority of those who fail courses or drop out. Reducing freshman failure rates requires improving the support, structures, and probabilities of success for those students who are at the margin.

One critique of this argument is that, despite their incoming test scores, students who drop out are somehow different and would have dropped out anyway. Low-achieving students who manage to be successful in the transition to high school must somehow be different from those who did not. This "unobserved" heterogeneity problem would suggest that simply getting students on track will not address their problems. However, new data from MDRC's evaluation of Talent Development High Schools are demonstrating that changes in the curriculum and structure of ninth grade can get students on track and lead to decreases in dropout rates.[34]

The Talent Development High School model brings together two reform approaches: (1) reforming the ninth grade through a Ninth Grade Success Academy and (2) a whole school reform that breaks the tenth through twelfth grades into smaller learning communities focused on career themes, called Career Academies. Over the past several years, MDRC has been evaluating the Talent Development model in seven low-performing high schools in Philadelphia. While there is less evidence that the Career Academies model has been successfully implemented, the evaluation has found strong implementation and strong effects in the Ninth Grade Success Academies. Like all of MDRC's excellent work, the evaluation takes a rigorous approach, using an interrupted time series design to compare trends over time in both program high schools and matched control high schools to estimate effects.

The Ninth Grade Success Academy model is designed to increase structure and support for freshmen by combining three approaches: (1) smaller, more personalized learning communities and a reduction in the number of initial ninth-grade academic courses; (2) curricular supports and transitional courses for ninth-graders; and (3) professional development supports and structures for teachers. Freshmen attend a self-contained school-within-a-school where they share the same teachers in an interdisciplinary team. Students take double course offerings in English and mathematics and, in the first semester, take courses designed to provide the transitional skills needed to move on to high school-level work. These include Strategic Reading, Transition to Advanced Mathematics, and Freshman Seminar, a course focused on study and developmental skills. In the second semester, students move to regular high school courses designed so that they can be on track after freshman year. A "twilight" high school provides additional support for students who have discipline problems or who transfer in midyear. Thus, the Talent Development approach structures freshman year to focus on increasing students' readiness for high school and then accelerates them (or catches them up) during their second semester. Teachers receive professional development and curricular materials. Each interdisciplinary team shares common planning time and an implementation support team provides on-site curriculum coaches and a school-based facilitator.

In two recent reports, MDRC found that the Ninth Grade Success Academy had strong impacts on improved attendance, academic course credits earned, and promotion rates.[35] Evidence from the first three ninth-grade cohorts in Philadelphia suggests that freshman year improvements were sustained through tenth grade. Early evidence from two schools demonstrates corresponding improvements in high school graduation rates. Schools in Talent Development experienced a 28 percentage point increase in the percentage of students passing algebra and a 9.5 percentage point increase in the proportion of ninth-graders promoted to tenth grade.[36] Matched control high schools, in comparison, showed little improvement.

While the Ninth Grade Success Academy produced significant declines in the proportion of first-time ninth-graders who had to repeat freshman year, MDRC concluded that it was less successful with those students who still ended up repeating ninth grade. In the context of the above discussion, this might make sense. Most students in Chicago were failing only a few of their courses. This suggests that much progress can be made by improving what high schools are doing now and the Talent Development model provides a comprehensive approach. But we also saw a group of students who were failing substantially in ninth grade and who may need much more sustained attention. The lack of progress among students who did not respond to the supports and intervention of the Success Academy model in either their first or second time through ninth grade may confirm the importance of developing much more sustained interventions for students who are especially at risk.

In this section, I argued that the first step in reducing dropout rates is to focus on the high school transition — improving students' skills before and initially upon entering high school, structuring ninth grade so that it concentrates not on weeding out students but on transitioning them successfully, and monitoring progress so that intervention is immediate. This will not entirely solve the dropout problem; school systems also need to develop strong alternative programs for students who have serious academic difficulty or who later may need structurally different alternatives.[37] However, the central argument is that high schools can make substantial progress by focusing on early preventive efforts that significantly reduce the magnitude of the problem, represent an efficient use of resources, and may resolve later problems. For example, in Chicago, the majority of dropouts, regardless of their age and the grade in which they leave high school, have accumulated very few credits. Almost half of dropouts leave high school with five or fewer credits, meaning that they did not complete freshman year.[38] Fully 70 percent of dropouts had less than 11 credits. Low credit accumulation creates significant barriers to recovery, as few alternative high schools are set up for students who essentially never finished freshman year. Thus, working on freshman year may both prevent students from dropping out and make it much easier to address the needs of students who do not drop out.

What will it take to improve college access and performance?

Most students enter high school with the desire to graduate and go to college. In systems with high failure rates, it doesn't take long for students to discover the strategy for graduation — go to class and pass your courses. But while the path to graduation becomes quickly evident, the path to college is vague for most students whose parents did not go to college. Most urban students are looking to high school educators to provide the strategies they need to achieve their goals. A critical role for high schools is to fill in this picture in ways that: (1) develop strong systems of guidance and information; (2) create environments that foster academic goals, turn aspirations into plans, and set norms of performance; and (3) engage students in coursework and academic experiences that will develop the skills necessary to get into college and succeed there. In essence, the value added of high schools in this era is to move students from surviving in high school to preparing for life after high school.

This is perhaps the central problem facing high school reform. To put it simply, the very institution that developed to support that survival strategy and make it successful is now the same institution that is failing students as they attempt to get beyond graduation. The history of the American high school over the last century is that of an institution that evolved to allow more and more students to attend and graduate. The great irony of the current policy debate is that the statistics most often cited to demonstrate the current failure of the American high school are low high school graduation rates in urban areas. Yet for most of the last century, rising graduation rates were cited as the greatest accomplishment of the American high school and its most important indicator of progress as high schools transformed from elite to comprehensive

institutions. What will it take to get students to college? Part of the answer to this question is to ask another: How can we get high schools to adopt an entirely new set of expectations for themselves and their students? The next section presents a brief digression on the historical roots of the current crisis.

The Current Crisis in Historical Perspective

The history of the American high school in the twentieth century was one of growing high school enrollments and concomitant increases in graduation rates that occurred during three periods of expansion. In the first period, roughly 1890 to 1920, booming immigration and social reform cut off the labor market for adolescents and created incentives for prolonged school attendance. From 1890 to 1920, the number of American students enrolled in high schools grew from about 2,500 to over 14,000.[39] The second period was initiated by the Great Depression and continued somewhat abated during World War II and through the end of the 1950s. In this second period, enrollment became universal and high school graduation rates increased accordingly. Between 1910 and 1940 the proportion of 18-year-olds who graduated from high school increased from less than 10 percent to over 50 percent.[40] The economists Claudia Goldin and Lawrence Katz (2001) have argued that the rise of high school enrollment and graduation during this period positively contributed to a narrowing of the wage structure.

In the third period, roughly the postwar period through the end of the 1970s, concerns shifted from a focus on attendance to graduation, and graduation from high school became the norm. The rise in graduation rates and the sharing of increases in attainment across racial and ethnic groups is one of the great success stories in the history of American education. Between 1950 and 1980, the percent of native-born young adults aged 20 to 24 with a high school diploma or its equivalency increased from 54 percent to 86 percent for whites and from 22 percent to 73 percent for African-Americans.[41]

How did high schools accomplish this increase in graduation rates? Education historians generally agree that graduation rates were raised by focusing on accommodation rather than achievement, essentially trading academic standards for equal access to schooling and the credentialing it afforded.[42] Accommodation meant making high schools very large. Between 1950 and 1970, the size of the average high school more than doubled from about 200 to 500 students.[43] Estimates from *High School and Beyond*, a national study of high schools in the 1980s, suggest that in the 1980s, the typical high school had close to 900 students.[44] Accommodation also meant lowering academic standards and diversifying the curriculum so that it was easier for students of different ability levels to graduate.[45]

In general, this formula — large high schools with weak curricula and low academic standards — worked well. High school teachers could have very high workloads and manage

them effectively because they expected most of their students to do little work. Teachers did not need to have personal relationships with most of their students because students were generally not relying on them for guidance to make the transition to work. Most students could get what they and their parents wanted, the high school credential, with little effort. The importance of graduation, moreover, provided a mechanism for teachers to set norms for student behavior. True, high school for most students could be described as boring but, as Michael Sedlak (1986) argues, the focus on graduation provided an unwritten contract between students and teachers that said, "Put up with high school, do your seat time, and behave properly, and you will be rewarded." And they were. Throughout the 1960s and into the mid-1970s the average earnings of high school graduates increased dramatically compared with college-educated workers, leading some economists to ask whether the United States had produced the "overeducated American."[46]

In the 1970s, improvements in graduation rates leveled off. With the 1983 publication of the report of the National Commission on Excellence in Education, *A Nation at Risk,* policymakers and educators also began to focus on achievement outcomes. Through this new lens, the old recipe for success became the culprit — large high schools in which most students took nonrigorous courses and had little connection to teachers or engagement in learning, faculty had large teaching loads, and students were not pushed to learn but were given credit for seat time. In the early 1980s, several major studies of the American high school directly attacked the notion that the American high school was a "success."[47] Powell, Farrar, and Cohen (1985) issued perhaps the most virulent critique of what they described as the resulting "treatise" between students and teachers that learning was irrelevant and largely voluntary:

> [T]aking or teaching a course does not by itself imply any commonly agreed-upon commitments or responsibilities. Often the only common understanding is that passing and hence graduation is contingent on orderly attendance rather than on mastery of anything….Learning is not discounted or unvalued, but is profoundly voluntary (p. 4).

The 1980s reports are dated, but little has changed in American high schools over the ensuing 20 years, except that increasing numbers of students are taking more rigorous coursework.[48] What did change is that students and families began to share this assessment of the general high school and, as current aspirations reflect, began to value achievement that would lead to college. With that historical digression, I now turn to the questions: What does it take to get a student prepared for college? And how do graduates from Chicago public schools currently stand on levels of preparation for college?

Translating Aspirations into Qualifications and Access

If students expect high schools to teach them the skills they need to succeed in college, a first step is to be more explicit about what that set of skills is. Research identifies three areas of skills development that are critical in determining college access and performance: (1) content knowledge and basic skills; (2) precollegiate academic skills; and (3) noncognitive skills and norms of performance.

Content knowledge and basic skills

Moving from high school to college-level work requires that students have high levels of basic skills (mathematics and reading) and content knowledge in core academic subjects. There is now a growing body of research linking students' measured achievement in these areas and their level of exposure to higher-level content — as indicated by the rigor of students' high school curriculum — to postsecondary performance. Perhaps the most well-known work in this area is Clifford Adelman's *Answers in the Tool Box* (1999), in which he drew on transcript data from the U.S. Department of Education's high school longitudinal studies to examine the link between high school preparation and college performance. Adelman found strong links between a student's high school GPA and achievement test scores and the likelihood of college graduation. The most important findings were in the area of coursework. The rigor of students' coursework, including the total number of Carnegie units in their core subjects and their participation in Advanced Placement, was significantly associated with their likelihood of graduation. Other studies have similarly documented strong associations between students' coursework and high school performance — the level of coursework, participation in advanced mathematics, grades, and performance on standardized tests — and the likelihood of placement in college remedial courses and college performance.[49]

Most research on the effects of coursework is cross-sectional and, although researchers statistically adjust for differences in prior achievement and background characteristics, studies have not yet controlled adequately for selection into coursework. As a result, the benefits of advanced coursework may be overstated. Studies are comparing the college performance of students who select advanced courses, who may be more oriented toward college, with those who do not. Even with this caveat, a focus on coursework makes sense. Students who take higher-level courses are exposed to more advanced material. They stay on task longer, which may be particularly important in mathematics. The lack of fourth-year high school mathematics means that students enter college having been off task in mathematics for up to 14 months. And it is often in advanced coursework that teachers are more likely to emphasize precollegiate academic skills. Course taking is also the area in which American high schools have made the most progress, particularly among minority youth.[50]

Precollegiate academic skills

Content skills are important. Equally as important are thinking, problem-solving, writing, and research skills across subject areas that will prepare students for college-level work. The distinction between core academic skills and content skills is often unclear. In the American Diploma Project's Standards for Collegiate Work, for example, many of the English standards relate to core academic skills across content areas that are not related to any particular subject area — writing, research, oral communication, problem-solving, and analytic thinking skills.[51] The distinction between content and basic skills and precollegiate academic skills is important, however, because high school courses such as Algebra II can emphasize content skills without emphasizing these core academic skills.

In my new research study, we have been observing eleventh- and twelfth-grade high school classes and find that it is the level of emphasis on precollegiate academic skills that distinguishes regular, honors, and AP and International Baccalaureate classes within subjects and often within courses of the same title. Moreover, these are soft skills, such as writing, that are hard to measure on achievement tests and that traditional college entrance examinations have only recently begun to measure. Yet they are highly valued by colleges and are the areas most often cited by college professors and students as the weakest areas of preparation in high school.[52] They are also cross-content area skills that are not the domain of an individual department or grade.

Noncognitive academic skills and norms of performance

I borrow the term for this third area of skills from James Heckman and Alan Krueger's (2003) characterization of skills that determine educational achievement but are not measured readily by standardized tests. Noncognitive academic skills include study skills, work habits, time management, help-seeking behavior, and social/academic problem-solving skills. As they do in the transition to high school, when students move to college they face increased developmental demands and academic expectations. It is assumed they can study and prepare for class without test deadlines, handle multiple assignments, work on projects of longer duration, and balance academic, employment, and other responsibilities. To excel in college, as in high school, students must have strong norms for their work effort and achievement in class and effective coping and help-seeking techniques that allow them to persevere when facing difficulty.

Students need to become "learners" rather than "attendees," who can manage their own learning, assess their progress and status, and rely on a set of core strategies for success. This is also the area that has been least developed in high schools. To be explicit, if the outcome that was previously valued was graduation, the path to that outcome was to reward students' seat time. Acquiring strong study skills, caring about grades, or developing self-motivation and problem-solving abilities were not high priorities for most students and were not high school

teachers' responsibility. As described previously, the traditional high school does reward a certain kind of "work effort" — the ability to show up on time and participate — but has not focused on developing "performance and self-motivation ethics." Historically this made sense. In the traditional workplace of an earlier era, particularly in those jobs that students could get with high school diplomas, critical thinking and problem-solving abilities were not highly valued. Yet these attributes are increasingly critical in both the workplace and college.

How Do We Measure Up? A Look at Chicago Public School Graduates

If a new purpose of high school is to develop students' qualifications in these three areas, how do we assess current levels of performance? Measures of college readiness rely primarily on three indicators of performance: (1) test scores on standardized tests or college admissions tests such as the ACT and SAT, (2) GPA, and (3) coursework. College admissions tests are used primarily as a standardized indicator of a student's college readiness compared with peers nationwide. The tests are meant to provide an independent assessment of cognitive achievement, measuring levels of basic skills, content area knowledge, and analytic thinking ability. Whether such tests accurately assess these skills, particularly for minority students, is hotly debated.[53] Grades are also a measure of whether students have mastered the material in their classes and are used as an indicator of a different kind of college readiness — whether students have demonstrated the work effort and study skills needed to meet the demands of a college environment.

Since 2004, researchers at the Consortium on Chicago School Research have been looking closely at the college readiness, college attendance, and college performance of graduates of the Chicago Public Schools (CPS). In 2004, the CPS began to track and publicly report on Chicago public school graduates' college attendance, using data from the National Student Clearinghouse (NSC). The Consortium, in partnership with the CPS, is using the NSC data along with surveys of students and analyses of high school transcripts to examine the link between students' high school experiences and their college outcomes. A significant advantage of our work in Chicago is that since 2000, Illinois has required all juniors to take the ACT as part of the state's high school assessment test, the Prairie State Achievement Exam.[54] Thus, this research examines performance on the ACT for most of Chicago's graduates, not just students who decided to go to college. In this section, I present results from a new Consortium report that looks in detail at the college-going patterns and levels of preparation of CPS graduates, including grades, test scores, and participation in honors and Advanced Placement courses.[55] I do not discuss our findings on the impact of coursework, which are quite consistent with prior studies, because we are currently looking much more closely at the effect of Advanced Placement courses and participation in the International Baccalaureate Program in shaping access to and performance in college, using more rigorous approaches to modeling selection.

The College-Going Patterns of CPS Students

Table 1 shows the percentage of CPS students from the graduating classes of 2002 and 2003 by race/ethnicity and gender who were identified as being enrolled in a college that participated in the NSC within the year after high school graduation. Table 1 also shows the distribution of CPS graduates by enrollment in two-year and four-year colleges and, among those students who attended college, by college selectivity based on Barron's ratings. Of those students who graduated in 2002 and 2003, nearly 60 percent were identified as being enrolled in a college in the NSC in the year after graduation.[56] The college participation rates of African-American, white, and Asian graduates from CPS presented in Table 1 are only slightly lower than estimates of the college participation rates of public high school graduates of the same race/ethnicity in the rest of Illinois and in the nation.[57] This is not true for Latino graduates from CPS. They were significantly less likely than Latino students in the rest of Illinois to be enrolled in college by the fall after high school graduation, using comparable estimates from NSC data.[58] In addition, CPS Latino graduates' participation rates are significantly lower than national estimates from the Current Population Survey of the percentage of Latino high school graduates who are enrolled in college in the year after graduation from high school. Consistent with national trends, males, regardless of race or ethnicity, were less likely to attend college.

As seen in Table 1, most of the racial/ethnic and gender differences in CPS graduates' college participation rates are driven by differences across groups in enrollment in four-year colleges. Within types of colleges, moreover, CPS graduates tend to enroll in less selective colleges (nonselective and somewhat selective) when colleges are classified using rankings from *Barron's Profiles of American Colleges.*[59] Only 20 percent of African-American females and 13 percent of African-American males who attended college enrolled in a selective or more selective college. In Chicago, the most commonly attended selective colleges are the University of Illinois at Chicago and DePaul University. Asian CPS graduates were the most likely to attend selective or very selective colleges.

College Qualifications of CPS Graduates.

These college-going rates highlight one of the central disjunctions between CPS students' aspirations and their college-going patterns. In 2005, almost 80 percent of CPS seniors stated on surveys that they hoped to obtain a bachelor's degree or higher and fully 94 percent hoped to complete some college or technical education. Yet only 60 percent of graduates in the previous class made the immediate transition to college and most were enrolled in two-year and nonselective colleges. The gap was largest among Latinos, whose aspirations do not predict such low levels of college attendance.[60] To what extent are urban students making different choices about the path they will take to attain those aspirations? Or to what extent do these college-going patterns reflect the constrained choices CPS students faced upon graduation? Our

Table 1

The Percentage of Chicago Public High School Graduates from the Classes of 2002 and 2003 Who Attended a College That Participated in the National Student Clearinghouse by the Spring after High School Graduation, by College Type and Selectivity and Race/Ethnicity and Gender

Percentage of seniors enrolled in a college by the spring after graduation[a]

		African-American		Latino		White/other ethnic		Asian	
	Total	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Any college	**59%**	**55%**	**64%**	**43%**	**50%**	**68%**	**72%**	**79%**	**83%**
Two-year college	22%	22%	23%	19%	21%	25%	24%	22%	17%
Four-year college	34%	31%	38%	22%	27%	42%	46%	55%	65%

College-goers by college type and selectivity (Barron's selectivity ratings)

		African-American		Latino		White/other ethnic		Asian	
	Total	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Males**	**Female**
Two-year college	39%	41%	38%	47%	43%	37%	34%	28%	20%
Four-year nonselective or somewhat selective	35%	45%	43%	29%	29%	30%	30%	21%	22%
Four-year selective or more selective	27%	13%	20%	24%	28%	34%	36%	51%	57%
selective	*18%*	*7%*	*12%*	*16%*	*21%*	*22%*	*24%*	*37%*	*44%*
very to most selective	*9%*	*6%*	*8%*	*8%*	*7%*	*12%*	*12%*	*14%*	*13%*

SOURCE: Author's analysis of Chicago Public Schools records.

NOTE: [a]The percentage of graduates enrolled in two-year plus four-year colleges does not add up to the percentage of seniors enrolled in college by the spring after graduation because "type of college" is missing for approximately 2-3 percent of students. Students whose college type is unknown are those whose records are "blocked" either by the institution or by the students. These students are identified as enrolled in college but are "blocked" by the NSC from identifying the college they are enrolled in.

analysis of the high school performance of CPS graduates suggests that few students are leaving high school with qualifications that put them on the path to their goals.

Figure 8 shows the distribution of ACT scores for CPS graduates from the classes of 2002 and 2003. In these years, the average ACT score of CPS graduates was 17 compared with an average of 21 for students nationally. As noted, the average Chicago ACT score is not directly comparable with the national average because the performance of almost all Chicago juniors is being compared with a more select college-oriented group nationally.

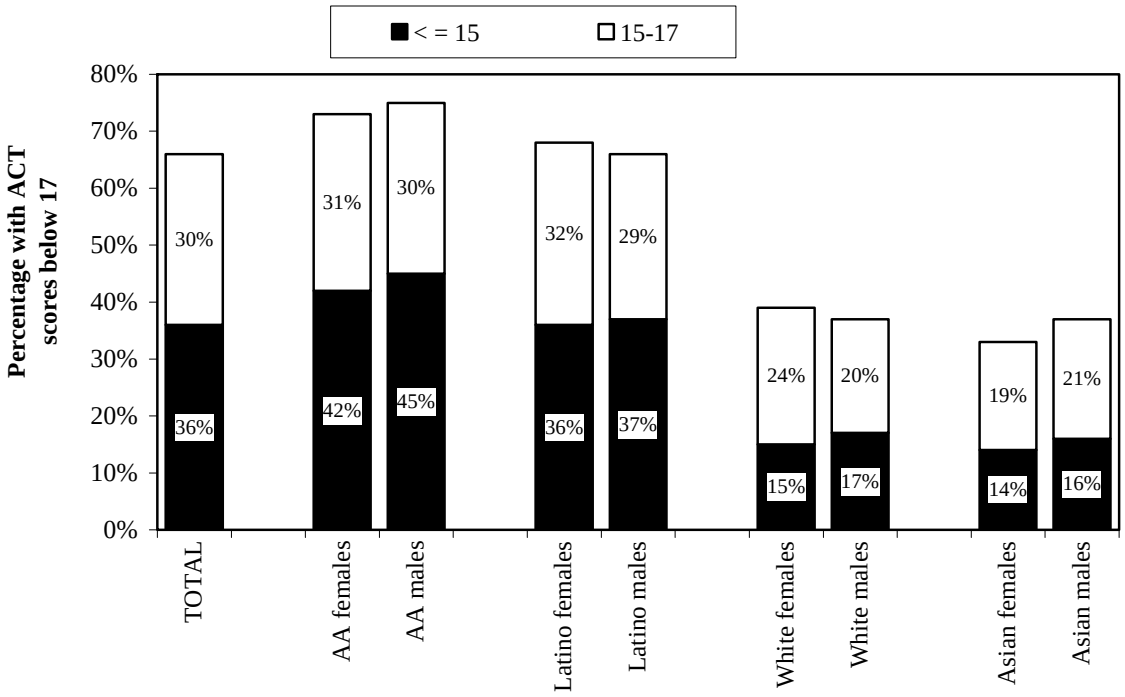
By any standard these results are dismal. Only 16 percent of CPS graduates in 2002 and 2003 were able to obtain ACT scores that placed them above the U.S. average. In their junior year, over 70 percent of African-American and two-thirds of Latino graduates from CPS scored below 17 on the ACT, compared with less than 40 percent of Asian and white students. The differences are just as extreme at the top end. Over 40 percent of Asian and white graduates in CPS scored above a 21 on the ACT, above the national average, compared with only 9-10 percent of African-American graduates and only 12-15 percent of Latinos. Importantly, there were only moderate differences in the performance of CPS graduates within racial/ethnic categories by gender.

Chicago students' ACT scores suggest that few African-American and Latino students were able to demonstrate the basic skills and content knowledge they will need for college. This is particularly disturbing when one considers the rise in achievement test scores for students entering high school over this period and the fact that with high dropout rates, students who ultimately make it to graduation are those who survived the system. If we track those CPS students who graduated back to eighth grade, we find that the average graduate in these years entered high school with reading test scores that placed them at or above national norms.[61] While tests differ in comparability, rising incoming test scores suggest that we cannot explain away the poor performance of CPS high school graduates at the end of high school by claiming that, on average, they came into high school with very weak test scores.[62] It suggests that between eighth grade and junior year, high schools were not building on that foundation and giving students the content knowledge and analytic skills they would need to demonstrate that they were qualified for college-level work. The GPAs of graduates, moreover, suggest that low ACT performance is not simply a problem of whether students are being exposed to content and skills. CPS graduates' grades indicate that many are minimally engaged in their high school work and are struggling academically throughout high school.

Figure 9 shows the distribution of unweighted GPAs in students' core classes for the graduates of 2002 and 2003. In an unweighted GPA, students' grades are not adjusted upward for taking honors or advanced placement courses. Most studies of college attendance rely on weighted GPAs that reflect a combination of students' performance in their classes and the rigor

Figure 8

Distribution of ACT Scores and Average ACT Performance of Chicago Public Schools for 2002 and 2003, by Race/Ethnicity and Gender: Percentage of CPS Graduates with Low ACT Scores (Below 17)



Average ACT and Distribution of ACT Scores

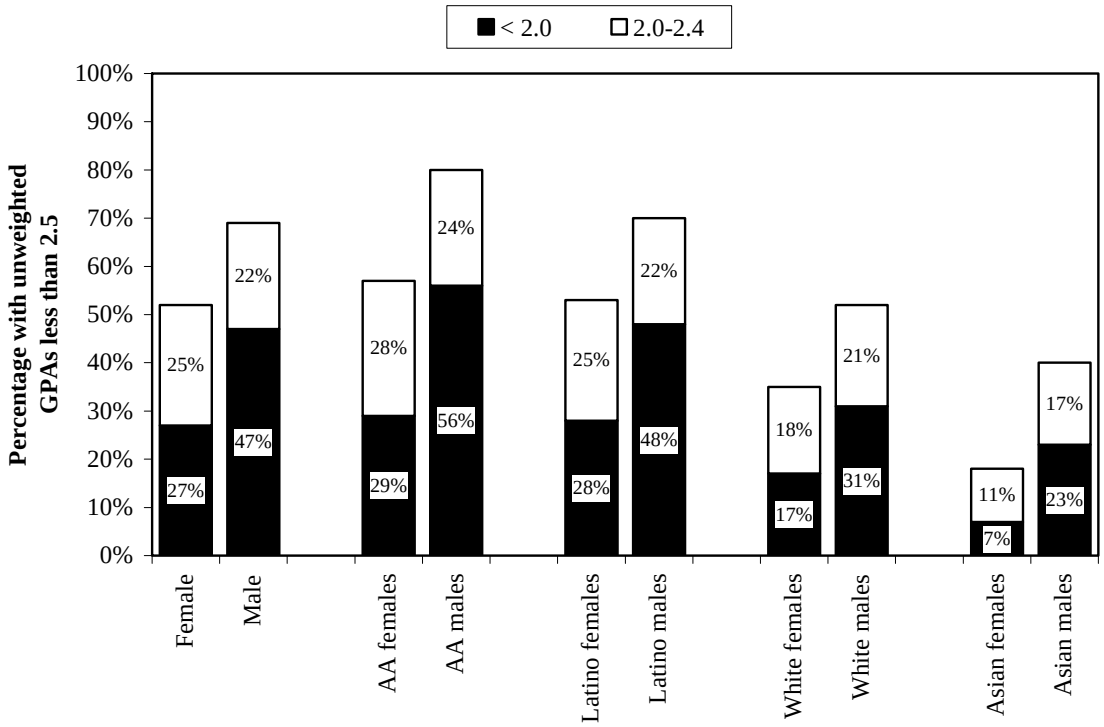
		African-American		Latino		White/other ethnic		Asian	
	Total	Female	Male	Female	Male	Female	Male	Female	Male
Average ACT	17.0	16.2	15.9	16.5	16.8	19.9	20.5	20.3	20.3
Distribution									
< 17	66%	73%	75%	68%	66%	39%	37%	33%	37%
18-20	18%	17%	15%	19%	19%	21%	17%	25%	20%
21-23	9%	7%	6%	8%	9%	18%	18%	19%	18%
24+	7%	3%	4%	4%	6%	22%	29%	24%	25%

SOURCE: Author's analysis of Chicago Public Schools records.

Figure 9

Distribution of Unweighted GPAs in Major Subjects and Average Unweighted GPAs of Chicago Public School Graduates of 2002 and 2003, by Race/Ethnicity and Gender:

Percentage of CPS Graduates with Low Unweighted GPAs in Major Subjects (Below 2.5)



Average Unweighted GPA and Distribution of Unweighted GPA

	Total		African-American		Latino		White/other		Asian	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Average unweighted GPA	2.47	2.15	2.35	1.97	2.45	2.12	2.78	2.44	3.05	2.66
Distribution										
<2.5	52%	69%	57%	80%	53%	70%	25%	52%	18%	40%
2.5-2.9	22%	16%	24%	13%	22%	16%	21%	20%	22%	21%
3.0-3.4	17%	10%	14%	5%	17%	9%	25%	18%	31%	22%
>3.5	9%	5%	4%	2%	8%	4%	20%	10%	29%	17%

SOURCE: Author's analysis of Chicago Public Schools records.

of their courses. Since both GPA and coursework may shape college access and performance, it is important to separate those effects. Thus, Figure 9 shows the unweighted GPAs of students in their core classes (English, mathematics, science, social science, and foreign language), which were calculated by re-analyzing each student's high school transcript.

On average across genders, fully one-third of CPS graduates in 2002 and 2003 had less than a 2.0 GPA in their core classes upon high school graduation and fully 59 percent graduated with less than a 2.5 GPA (not shown). Only 9 percent of females and 5 percent of males graduated with a GPA greater than 3.5. As there are in ACT scores, there are dramatic differences in GPAs by race and ethnicity. Over 65 percent of African-American and 61 percent of Latino students graduated with less than a 2.5 unweighted GPA in their core classes, compared with 43 percent of white students and only 29 percent of Asian students (not shown). Asian students were most likely to excel in their courses. Fully 50 percent of Asian students graduated with a 3.0 unweighted GPA or higher in their core classes, compared with only 14 percent of African-Americans and 20 percent of Latinos (not shown).

Low ACT scores among African-American and Latino CPS graduates are not happening in isolation. Low GPAs provide evidence that these students have not excelled in high school in other ways. Thus, racial and ethnic differences in preparation for college reflect both low performance on standardized tests and the extent to which students are working hard throughout high school, being challenged to excel in their courses, demonstrating mastery of material, and exhibiting the work effort, study skills, and engagement that signal that they are ready for college-level work.

Poor performance and low engagement in their high school classes are the norm among minority males. While we found only moderate differences in the average ACT scores of those CPS males and females who graduated, there were dramatic differences between males and females in their performance in their classes. Among the graduating classes of 2002 and 2003, 47 percent of males versus 27 percent of females had unweighted GPAs below 2.0 in their core classes. Over half of African-American male graduates had less than a 2.0 unweighted GPA in their core subjects. Across all racial/ethnic groups, females were much more likely to graduate with high GPAs. Over one-quarter of female graduates (26 percent) versus only 15 percent of male graduates had a B average or better (3.0 or above) in their core classes. African-American female graduates were more than twice as likely as their male classmates (18 percent versus 7 percent) to graduate with a 3.0 or better GPA.

How important are these low ACT scores and GPAs in shaping students' access to college? Table 2 presents the results of a series of multivariate analyses that estimate differences across CPS graduates in their likelihood of attending any college, of attending a four-year versus a two-year college, and of attending a selective or more selective college, by ACT scores

Table 2

The Effects of Unweighted ACT Scores and GPA on College Participation for Chicago Public School Students in the Graduating Classes of 2002 and 2003

	Differences in the predicted probability for an "average" CPS student by students' level of high school performance and participation in honors and AP coursework		
	Probability of attending college among all graduates	Probability of attending a four- versus a two-year college among students attending college	Probability of attending a selective or more selective college among students attending four-year colleges
ACT			
< = 14	.57*	.40*	.06*
15-17	.57*	.50*	.12*
18-20	.62*	.64*	.17*
21-23 (omitted category)	**.67**	**.69**	**.20**
24-26	.68	.70	.25*
27+	.64	.71	.22
GPA			
< 2.0	.46*	.30*	.05*
2.0-2.4	.57*	.53*	.14*
2.5-2.9 (omitted category)	**.66**	**.67**	**.27**
3.0-3.4	.72*	.75*	.35*
3.5-4.0	.81*	.82*	.47*

SOURCE: Author's analysis of Chicago Public Schools records.

NOTES: These predicted probabilities were calculated from a two-level hierarchical linear model. Each model included a student's ACT score, unweighted GPA, coursework (participation in honors and advanced placement), dummy variables for race, ethnicity, and gender, a measure of the average poverty level and socioeconomic status of the student's neighborhood, age of entry into high school, distance traveled to high school, and a measure of the students' incoming achievement level on the Iowa Test of Basic Skills in reading and mathematics. We include both the summary achievement measure and a squared term because of nonlinearity. At the school level, we include information on the average socio-economic status of graduates, average achievement level of graduates, and the racial and ethnic composition of the student body.

* Statistically significant difference from the omitted category. The omitted category for ACT is 21-23; for GPA, it is 2.5 to 2.9.

and unweighted GPAs. These analyses estimate the predicted probability of each of these three outcomes, after grades and ACT scores have been taken into account, as well as participation in honors and AP courses, a student's demographic characteristics and prior elementary school test scores, and the average demographic and achievement characteristics of the student's high school. Thus, the predicted probabilities in Table 2 represent the estimated probability of each of the three college outcomes for a student who attended an average CPS high school, had typical demographic characteristics and entering test scores, and was "average" on the other high school indicators, including grades and test scores.

These results suggest that poor high school performance is not a barrier to enrolling in college but that it constrains students' college options considerably. Students with ACT scores less than 17 were less but not dramatically less likely to enroll in college than their classmates with better than average ACT performance. But these students were much less likely to enroll in a four-year college and few attended selective or more selective four-year colleges, such as the University of Illinois at Chicago. Students' grades emerge, moreover, as an important predictor of college participation. Among two students with similar ACT scores, a student with a high GPA was significantly more likely to enroll in college. Among those who enrolled in college, a student with a high GPA was significantly more likely to enroll in a four-year college. And among those graduates who attended a four-year college, a student with a high GPA was significantly more likely to enroll in a selective or more selective college.

It is not surprising, given CPS graduates' low GPAs and ACT scores, that they are concentrated in two-year and nonselective four-year colleges. CPS students with ACT scores above 18 and GPAs above 2.5 were much more likely to attend a four-year college, and those with ACT scores above 24 and GPAs above 3.5 had significantly higher probabilities of attending a selective or very selective college. But few CPS graduates fall into these categories.

What types of colleges should students be prepared for? This is an important policy question that will arise as urban school systems move toward college preparation as a measure of high school performance. All high school graduates have the option of enrolling in some college: an open admissions two-year college or, for all but a few, a nonselective four-year college. One option is to think about whether students have access to four-year universities and, particularly, to public state four-year universities. This will differ by state. In Illinois, if a student was qualified to attend a somewhat selective college, she would have access to the majority of the four-year public universities around the state. These would include Chicago State and Northern and Southern Illinois Universities. A student who qualified for admission to a selective college would have access to the University of Illinois at Chicago. And a student who qualified to attend a very selective college would have access to the best public college in the state, the University of Illinois at Urbana-Champaign. What prospects, then, did CPS students face when they graduated?

Table 3 examines the types of colleges to which CPS graduates from the classes of 2002 and 2003 would likely have been admitted, given their high school performance. We identify cut-offs for each "qualification category" (such as access to a selective college), using the multivariate analyses described above where GPA and ACT scores have independent effects and identifying descriptively the modal college attendance patterns of students with different GPA and ACT combinations. These two approaches allow us to identify the most likely college outcomes for students with different GPAs and ACT scores. Thus, our rubric indicates the minimum GPA and ACT scores that CPS graduates would need to have a good chance of being accepted to certain classifications of colleges, given the experience of their classmates.[63] Because all high school graduates have the option of attending a two-year college, we categorized graduates with ACT scores and GPAs that fall below the level necessary for likely admittance to a nonselective four-year college as being limited to attending two-year colleges. The GPAs and ACT cutoffs we used are generally lower than the definitions used in college ratings such as Barron's and other existing rubrics to measure qualifications.[64] This is because we are basing the rubric on the actual college-going patterns of CPS graduates and the GPA and ACT scores of those graduates who enrolled in these schools, not the average of the entering class of that college.

Table 3 illustrates that low levels of qualifications significantly impede CPS students' chances of gaining admission to somewhat selective or selective four-year colleges. Only half of CPS graduates had ACT scores and grades that could give them a chance of being admitted to the majority of Illinois' public universities. Only 20 percent of CPS graduates graduated with ACT scores and GPAs that could admit them to the selective colleges in the state system and, if we include in that characterization whether the student had taken an Advanced Placement course, the rate falls to 10 percent. White CPS graduates were more than three times as likely as African-American graduates and twice as likely as Latino graduates to leave high school with the ACT scores and GPAs that would qualify them to attend colleges such as the University of Illinois at Chicago and DePaul (selective colleges). Once again, there were gender differences within every racial/ethnic group, largely driven by the significantly lower GPAs of males. Nearly three-quarters of African-American males graduated from CPS with such low GPAs and ACT scores that they would likely be admitted only to a two-year college or a nonselective four-year college.

College Graduation Rates of CPS Graduates

Getting to college is important. But closing the aspirations-achievement gap requires not only that students attend college but also that they succeed there. The previous examination of the qualifications of CPS graduates raises serious questions about how these students will fare in college. Though the 2002 and 2003 high school graduating classes have not yet had time to graduate from college, we can examine the college graduation rates of CPS graduates from prior cohorts (1988 and 1999) who made the immediate transition to a four-year college and

Table 3

The Percentage of Chicago Public Schools 2002 and 2003 Graduating Classes Who Have GPAs, ACT Scores, and Coursework That Would Give Them Access to College, by College Type and Selectivity

College students are qualified to attend	Total	African-American		Latino		White and other ethnic		Asian	
		Male	Female	Male	Female	Male	Female	Male	Female
A **two-year** college only	31%	50%	29%	42%	26%	22%	13%	18%	6%
A **nonselective** four-year college only	21%	23%	24%	20%	22%	15%	13%	14%	8%
At least a **somewhat selective** four-year college/university[a]	48%	28%.	47%	38%	52%	63%	74%	68%	86%
At least a **selective** four-year college/university									
➢ GPA & ACT qualified	20%	7%	13%	13%	18%	36%	43%	41%	56%
➢ *GPA & ACT qualified and participated in a honors/AP sequence.*	10%	4%	7%	5%	8%	22%	25%	28%	39%
At least a **most selective** four-year college/university									
➢ GPA & ACT qualified	4.0%	<1.0%	2%	2%	2%	14%	13%	15%	19%
➢ *GPA & ACT qualified and participated in a honors/AP sequence*	3.6%	<1.0%	1%	<1%	2%	11%	11%	12%	17%

SOURCE: Author's analysis of Chicago Public Schools records.

NOTE: [a]"*At least* a somewhat selective college" includes students who are also qualified to attend a selective and most selective college. The first two rows in the table are mutually exclusive and represent the proportion who could go only to a two-year college or who could go only to a nonselective college. All CPS seniors are qualified to attend a two-year college because of open admissions. Thus, 100 percent of CPS students are qualified to attend a two-year college, but 31 percent have such low qualifications that they could not attend a nonselective four-year college. Many nonselective colleges also have open admissions but have some minimum criteria.

who thus have had at least six years to graduate. Among these prior cohorts, our sample is limited to students who enrolled in four-year colleges that both participated in the NSC at that point and reported graduation data.[65]

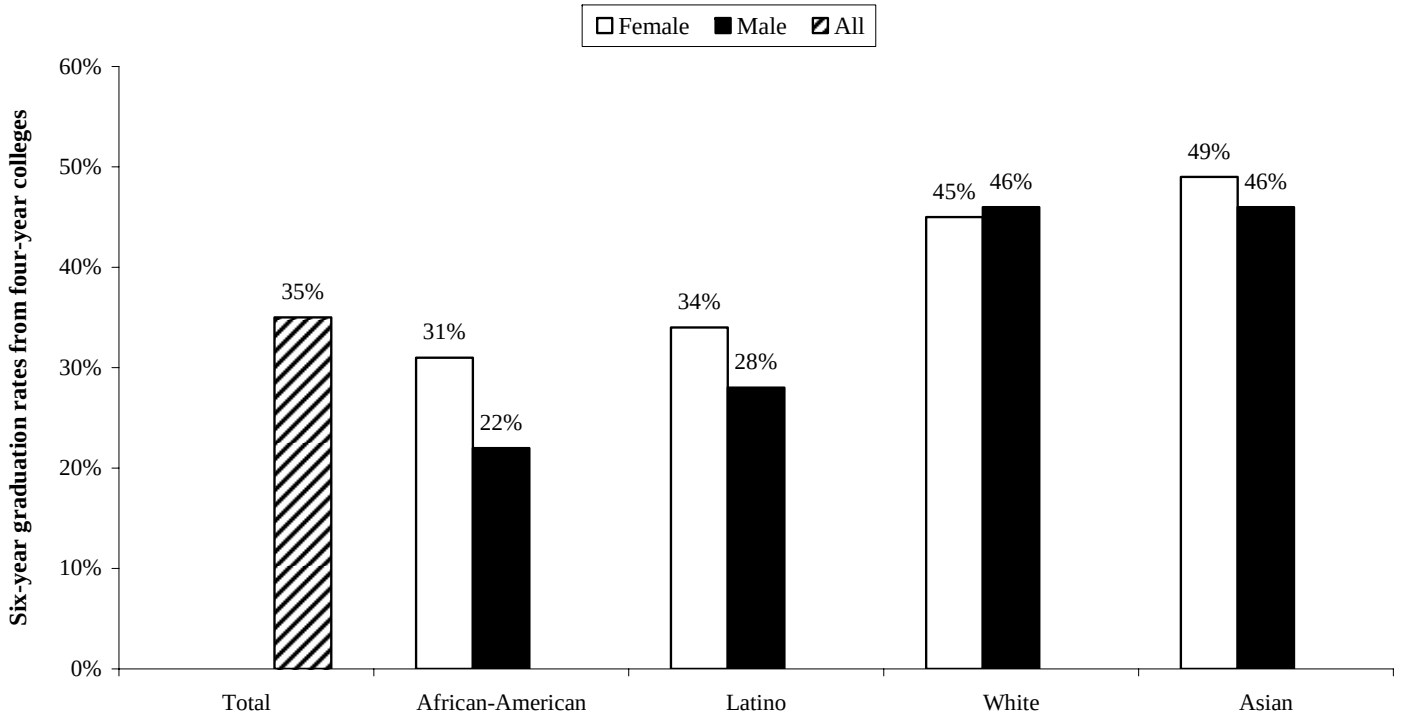
Only 35 percent of students who graduated from CPS in 1998 and 1999 and entered a four-year college within one year graduated from a four-year college six years later (Figure 10). I noted previously that, with the exception of Latinos, CPS students were as likely as their similar racial/ethnic counterparts in Illinois and in the nation to enroll in college in the year after graduation. CPS students, however, appear to have significantly lower college persistence and graduation rates. For example, 64 percent of students who began four-year colleges in the U.S. Department of Education's Beginning Postsecondary Education study graduated within six years.[66] This study is explicitly intended to provide a national picture of student experiences and persistence in college. The equivalent graduation rate of African-American students in the Beginning Postsecondary Education study was 46 percent; among Latinos it was 47 percent. In sharp comparison, as seen in Figure 10, only 31 percent of CPS African-American females and 22 percent of CPS African-American males who enrolled in four-year colleges graduated in six years. Asian and white CPS graduates were more likely to graduate, yet their graduation rates also fell below national averages. Thus, our estimates suggest that while CPS graduates from the classes of 2002 and 2003 attended college at rates below but not substantially below their national counterparts, their likelihood of graduating from college, given their qualifications, may be substantially lower if we use the experiences of prior cohorts as a guide.

As it did with college admittance, our analysis suggests that the low GPAs and test scores of Chicago students are an important contributor to their low four-year college graduation rates. Figure 11 presents the results of an analysis designed to untangle the effects of grades and test scores on the likelihood of college graduation among CPS graduates for the classes of 1998 and 1999. Unfortunately, because these earlier cohorts attended high school before the introduction of the new state tests, we do not have ACT scores for these students. We do have a measure of achievement based on the Test of Achievement Proficiency (TAP), which was given in eleventh grade in the CPS prior to the new state exam.[67] The first bar for each indicator shows the predicted effect of each measure of preparation when looking only at the effect of that indicator, not accounting for student characteristics, high school course-taking, and other measures of high school performance.

Thus, students who entered a four-year college with a 3.0 unweighted GPA, versus a 2.45 GPA, were 20 percentage points more likely to graduate within six years. These students, of course, also had higher test scores and were more likely to take advanced coursework. The second bar shows the independent effect of each measure of preparation, when accounting for students' TAP scores (achievement test scores), grades, coursework, and demographic characteristics. Thus, among two CPS students who entered a four-year college with similar TAP scores, the student

Figure 10

Six-Year Graduation Rates from Four-Year Colleges for Chicago Public School Graduates from the Classes of 1998 and 1999 Who Entered a Four-Year College Immediately after Graduation



SOURCE: Author's analysis of Chicago Public Schools records.

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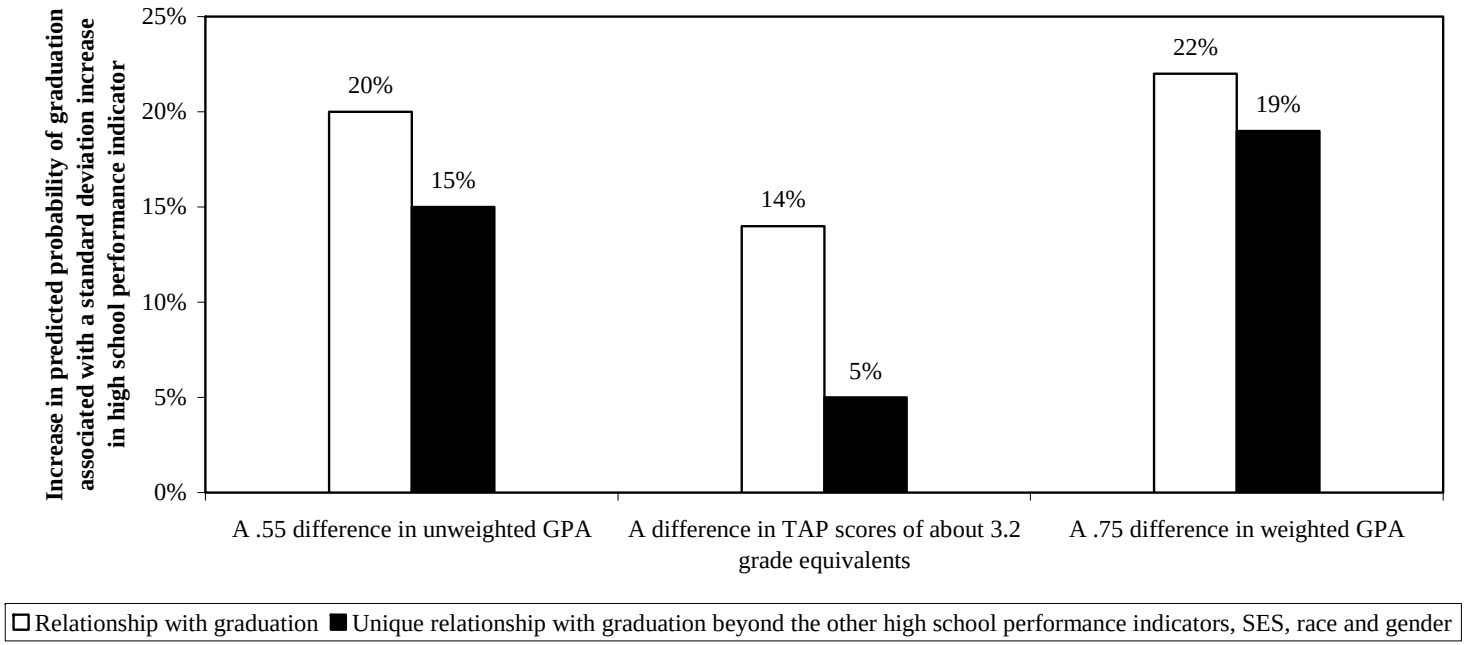
Figure 11

Predicted Effect of Unweighted GPA, High School Test Scores, and Weighted GPA on the Chances of Graduating from a Four-Year College Within Six Years for Chicago Graduates from the Classes of 1998 and 1999



NOTES: Each comparison represents a difference of about 1 standard deviation in the high school preparation variable. Difference in graduation rates were calculated for students with typical preparation on the other indicators (GPA or TAP) as well as the number of honors and AP courses students took. TAP refers to students' test scores on the Test of Achievement Proficiency at 11th grade. The unique relationships were estimated using logistic regression analysis with all high school preparation variables entered, as well as variables for race and gender.

SOURCE: Author's analysis of Chicago Public Schools records.

who graduated from CPS with a 3.0 versus a 2.45 unweighted GPA was 15 percent more likely to graduate from a four-year college within six years. Consistent with prior research, we find that grades were a more important predictor of college graduation than test scores.[68]

In conclusion, grades and test scores are important because they get students into four-year colleges and more selective four-year colleges. Moreover, high school grades emerge as an important predictor of how students will do in college. As a final and important look at the impact of preparation and college choice, Figure 12 presents the predicted probability of graduating from a four-year college within six years, at the colleges most frequently attended by CPS graduates, for students with different grade point averages. This within-college analysis demonstrates the importance of grades, as well as college choice.

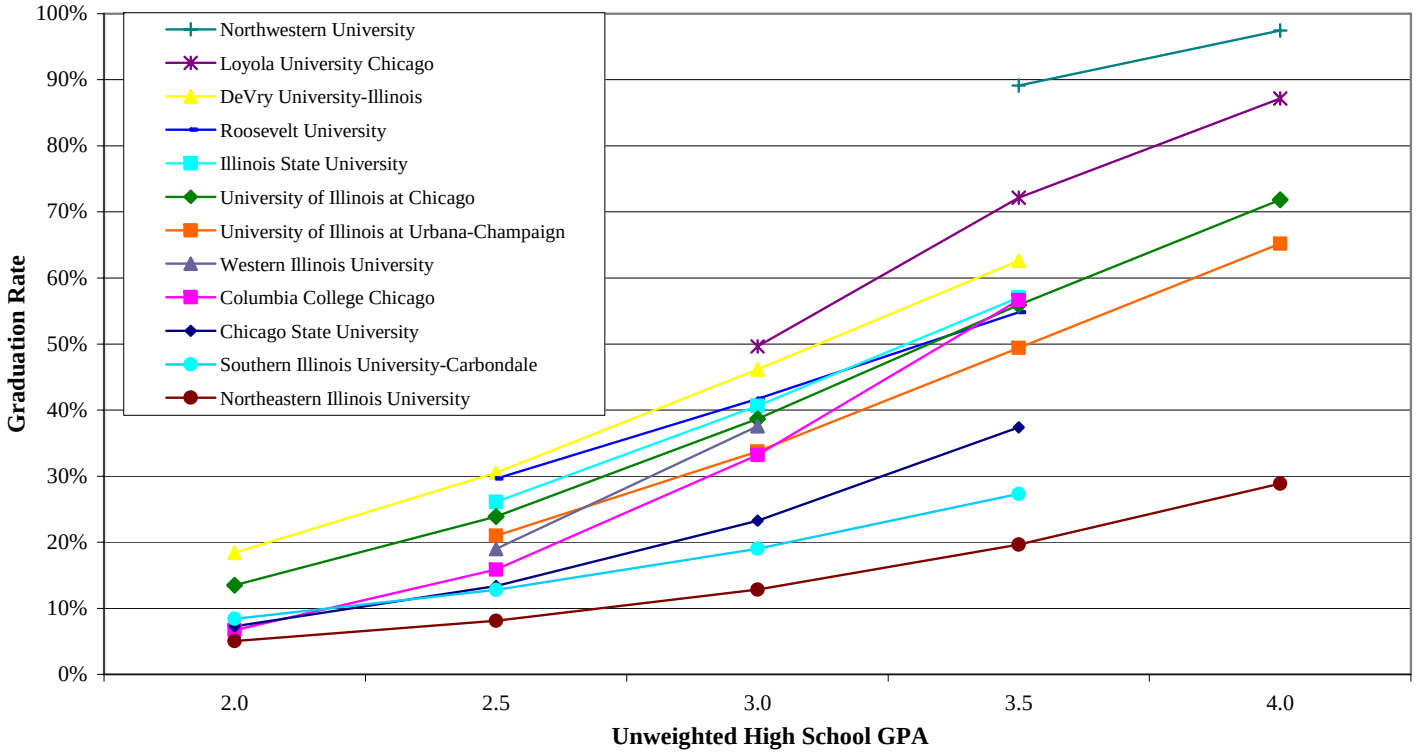
Three important points can be taken away from this graph, which nicely summarizes the main points of this section. First, no matter which college they attended, CPS students who entered college with very low grades were unlikely to graduate. Second, within colleges, a student's chances of graduation differed dramatically by their grades in high school. A student who entered the University of Illinois at Chicago (UIC) with a 4.0 GPA was three times more likely to graduate within six years than a student in that same year who entered UIC with a 2.5 GPA. Third, and as a transition to the next section, this graph vividly illustrates that preparation without attention to college selection is not enough. Among students with high grades, the likelihood of graduating differed widely across these institutions. To explain this wide variation in outcomes, we need to know more about these institutions and the kinds of students who attend them. Will preparation in high school lead to college graduation? What is clear and is emerging throughout our work is that college choice matters and will shape the likelihood that students who leave high school "prepared for college" will ultimately graduate once enrolled.

Moving Students from Survival in High School to a Focus on Achievement and College Preparation

The purpose of presenting this data is to bring into focus the range of issues that high school educators and reformers must grapple with as we begin to develop and evaluate school reform efforts. The policy debate too often centers on how to raise achievement test scores or reduce dropout rates, and these goals are often presented as conflicting outcomes. But the problem is more complex. High schools must find a way to change the prevailing norms of both students and teachers and the means to develop instruction and school environments that deeply engage students in learning. Students who fail courses are not likely to graduate from high school. Working on dropout rates means moving students from F's to D's. But a D average will not get a student into a four-year college. A D average is not a high school GPA that will allow a student to graduate from college. This institutional focus on graduation has created a central impediment for students in meeting new sets of aspirations.

Figure 12

Six-Year College Graduation Rates among Chicago's 1998 and 1999 Graduates who Attended Four-Year Colleges, by High School GPA for Colleges Often-Attended by CPS Graduates



NOTE: Each school's line presents the results of a within-college logistic regression analysis that predicted the probability of graduation within that college for Chicago public school students in that college by their high school GPA. Points are included in the graph for a college only if 20 or more CPS students with that GPA attended that college.

SOURCE: Author's analysis of Chicago Public Schools records.

In a system with high dropout rates, too often the pressure is on students to survive to graduation: a culture of passing. I witnessed the impact of this culture in my prior qualitative work on the transition to high school. In eighth grade, we asked students to state their goals for high school. Many students had lofty goals — to be the valedictorian, to be on the sports teams, to participate in extracurricular activities. In an urban high school, these goals were quickly erased by the reality of the confusion and the need to graduate. At the end of freshman year, I asked students, "Did you accomplish your goals this year?" For those who said they didn't, the answer was nearly always the same: "No, I didn't go to class, I didn't pass." For those who said they did, regardless of their previous lofty goals, the answer was nearly always, "Yes, I passed my classes." When we asked about goals for sophomore year, the most common answer, with the exceptions of the few students who excelled was, "To go to class and pass my classes."

For the survivors, this is a good strategy for graduation, but not a strategy that gets a student into college. The difference between an F and a D, as students explain, is going to class and minimally doing the work. The difference between a C and a B, and particularly between a B and an A, is doing homework and engaging in the class material well enough to master it. It is also the difference between developing and not developing the kind of noncognitive skills that I have argued are critical for students' success in college. It is not surprising, then, that GPA has emerged in our and others' work as the most important determinant of students' access to college and the likelihood of graduating. GPA is important in predicting college access and performance. It also explains one of the most important differences we observe in student outcomes in Chicago — gender differences in college outcomes. The question, then, for high schools is not only how to improve instruction, but also how to create instructional environments that address the achievement ethos, that develop noncognitive skills, and that can move students from a focus on graduation to preparation for college.

Working on instruction is important. Low grades are as much an indicator of the quality of instruction and the learning environment as they are an indicator of a student's individual motivation and skills. The ranking of Chicago high schools by their ACT scores roughly corresponds to their ranking by average unweighted GPAs.[69] Thus, contrary to popular wisdom, at least in Chicago, it is not easy to get straight A's in a low-performing high school. Students in better-performing high schools are much more likely to have higher GPAs. An instructional environment in which students can get A's means having classes that are well organized, hold high and clear expectations, and are taught by high-quality teachers who use curricula that engage students and motivate them to learn and excel. Classes where students seldom get homework or don't know what the homework requires or when it will be collected, where topics seem random and disconnected, and where students are never asked to grapple with questions and push themselves to do better are not classes in which students can easily get A's.

A focus on instruction, however, is not enough. It must be accompanied by an equivalent emphasis on guidance and the development of normative environments and support structures, as

well as attention to fostering relationships with students and their families. Guidance and attention to creating strong relationships and supports for students must be closely linked to instructional improvement and must have a singular focus — coming together to create environments that develop the social capital (information, norms and expectations, and concrete supports), which in this case is an essential precursor to developing the human capital (content knowledge, qualifications, core academic skills, and noncognitive skills) that students will need to be successful. Three core areas of social norms, support, and guidance are essential for raising achievement in high schools: (1) helping students translate aspirations into concrete plans, (2) defining clearly what preparation means and translating that into day-to-day expectations and experiences, and (3) demonstrating for students that achievement pays off.

First, high schools cannot ask students to work hard, engage in more rigorous coursework, and focus on developing specific sets of skills if students and their families do not understand why this matters and if they do not aspire to postsecondary experiences that demand high performance.[70] Raising achievement norms for students begins by working with students to make their aspirations concrete. College, for many urban students and those whose parents did not go to college, is an aspiration and a path to a job. These students do not see colleges as an array of educational institutions that differ in their quality and their offerings. And they do not see college as an educational experience that they need to be "ready" for.

Unless siblings or relatives have attended college and have begun to communicate how much college choice matters, to most urban students, college is college. James Rosenbaum (2001) has argued that open admissions policies have sent the message that all you need to do to go to college is graduate from high school. This is true. Any high school graduate can go to college. But as we've seen in this paper, college in this sense might not mean attendance at an institution that provides a path to a four-year degree or the ability to take courses for college credit. We also know that connecting performance in high school to college makes a difference in students' work efforts. Rosenbaum (2001) found that 40 percent of urban students with college plans believed that how they performed in high school was irrelevant to their future. This belief was associated with less effort in high school and poorer college performance. Thus, raising students' aspirations must begin by working to change students' view that college is an outcome, rather than an institution they need to plan and prepare for.

Second, high schools must provide the information structures and academic experiences that will communicate to students and their families what "preparation" actually entails. Few urban minority families and students understand what is needed to enter college.[71] Students must consistently hear messages about the skills they need to acquire to reach their goal, experience those expectations in their classrooms, and experience success in developing those skills. Many students, not just urban students, are not making the connection between skills and effort in high school and success in college. In a recent Achieve survey of college graduates, 65 percent of college students agreed or strongly agreed that, given their experience in college, they would have

"worked harder and applied themselves more in high school" and "taken more rigorous courses," if they had known what college demanded.[72] Students at two-year colleges were more likely (75 percent versus 60 percent) than those at four-year colleges to agree that they would have changed what they had done in high school if they understood what college demanded, most likely reflecting the recognition that their high school performance limited their college access.

Third, as vividly illustrated in data on the wide variation in college outcomes of students in Chicago, even among those with similar grades, educators must realize that preparation will not necessary translate into access to college if high schools do not provide better structure and support for students in college search, planning, and application.[73] This may be critical in shaping motivation. Students and their families need to believe that high aspirations are attainable. In part, students "believe" when they feel well supported and capable of achieving their goal.[74] They also believe when high schools provide concrete structures and supports for college — so that students know they can rely on their school for information and guidance — and when their school demonstrates a track record of success. Each student who gets a "Gates Scholarship," who gets into a great college, or returns from college to talk to younger classmates sends a message to current students that they can trust their high school and teachers to do right by them. To preview the findings we are currently exploring in our qualitative analysis, when students do not clearly perceive these structures and outcomes in their high schools, they approach their goals and plans for college with anxiety, indecision, and confusion. In contrast, students who can see the structure and believe that teachers and staff will tell them what to do when they need to do it, approach their goals with more connection to their high school achievement and less anxiety.

The need for guidance and information creates new roles for teachers and school staff and is as important a challenge for high school reform as raising achievement test scores. The challenge is to put in place strong postsecondary guidance programs. It is also for teachers to consistently make the link between what students are doing in the present and their goals for the future, while working hard to concretize students' aspirations so that they understand the importance of achievement. The challenge is to create strong instructional programs that explicitly work to: (1) develop shorter-term goals (grades, participation in and mastery of advanced class work, high test scores); (2) teach core academic and noncognitive skills; (3) link those skills to the capacities that students will need to perform in the workplace and in college; and (4) engage students in experiences that build a sense of their own capacity, efficacy, and aspirations. Finally, the challenge for teachers and school staff is to exert greater authority in their students' lives, to convey to students and their families a better understanding of the colleges they can and should aspire to, and provide the concrete support they need. In conclusion, the challenge is to provide the normative environments, experiences, and information structures adolescents need to be able to raise their aspirations, understand the payoffs of high performance, and translate their aspirations into behavior.

The Challenge for Research and Reform

At the beginning of this paper, I noted that discussions about high school reform have coalesced around the topics of personalism and instructional improvement. In the end, one reading of this paper is that, even though I was discussing a totally different set of issues — problems of dropouts and college preparation — I arrived at the same place. Reducing dropout rates will require a singular focus on improving outcomes in freshman year and raising achievement, creating strong and developmentally appropriate instructional programs, and wrapping around students strong supports and structures to ensure their success. Improving college outcomes will require ratcheting up the instructional program and focusing on precollegiate core academic and noncognitive skills, while making available to students the guidance, norms, relationships, and concrete supports they need to achieve at high levels. There is certainly nothing original about arguing that a focus on instruction and academic press (or the degree to which the school sets high standards for achievement and has a strong normative focus on academic success) needs to be combined with a focus on social support.[75] So, in the end, does this discussion either contribute to or challenge the current dialogue around high school reform?

First, I hope that this discussion of what it will take to get students to graduate and be prepared for college impels educators, policymakers, and members of the reform community to expand the set of outcomes that we use to evaluate programs and seek to influence. The kinds of instructional improvement efforts one might design if the goal is to raise test scores might be different if that goal also includes improving teachers' ability to develop students' capacity to study and work on more complex and difficult assignments. Effective programs to improve outcomes in ninth grade, moreover, may effectively work on one problem — course failure and dropout rates — but may leave unaddressed the question of how to take students to the next level in their development.

Second, I hope that this paper provides a framework to evaluate and develop new reform efforts. I have tried to make an explicit argument: Efforts to improve instruction and increase social and academic support for students (personalism) must be linked and explicitly focused on a common goal that brings teachers and students together, supports teachers' work in the classroom, and engages students in their future. According to this prescription, most reform models, at least on paper, fall short. Many high school reform models initially packaged efforts to develop personalism (small learning communities) with efforts to improve instruction (standards-based instruction) with little explicit attention early in the process to how each element supports the other and how the particulars of both are linked to one of the two critical outcomes we care about (graduation and preparation for postsecondary education). Indeed, what strikes me when I review reform models is how seldom they are directly linked to the core outcomes that matter for students and how seldom they are focused on building educators' capacities to pursue those outcomes. Seldom are personalism efforts, which are most often structural changes such as small schools, explicitly incorporated into the instructional improvement strategy, so

that teachers are focused on developing their own capacity to incorporate issues of motivation, guidance, and development in their classrooms. The Ninth Grade Success Academy is one model that has effectively linked together structural changes, student support, professional development, and curricular improvement around common goals.

The task for the research and reform community is twofold. First, we need to learn much more about how to link these strategies and how to effectively prepare students for college and increase their access. Second, we need to design and conduct rigorous evaluations of alternative models. If a small school called me today and asked me for a comprehensive strategy to improve college access for their students that links curricular and instructional improvement, strong guidance and support for students, and professional development and structures for teachers to work on the problem — and that has clear evidence of effectiveness — I would be stymied. More rigorous coursework is a solution, but clearly only part of the solution, and we need to know more about why more rigorous coursework works and for whom, particularly in the area of Advanced Placement.

Programs like Achievement Via Individual Determination (AVID)[76] may provide strategies for how to address poor GPAs and low levels of noncognitive skills, particularly study skills, but there has been little rigorous research on such approaches and effective replication in urban environments. Too often, educators rely instead on the one-case, best-practice model. Often educators also begin to patch together or adopt in a "Christmas tree" approach a variety of programs that they can "buy" or strategies that they can borrow from different schools that seem to work well on parts of the problem.[77] But we don't know enough about whether the solutions being generated in particular schools, by innovative leaders, or by programs such as AVID are replicable, what it will take to replicate them, and how different solutions could be packaged in ways that work. Thus, I hope this paper will provide a common framework to evaluate how different reform models may fit into the overall picture and will serve as a call to action to develop new models.

The Challenge for Policy: Creating Incentives and Supports for Change

The discussion above assumes, however, that high school principals are out there asking researchers how they can get freshman failure rates down or improve their students' GPAs, ACT scores, and college outcomes. I do sometime engage in these discussions with principals. But with the exception of educators involved in new schools and charters who are explicitly trying to create new models, most often the conversation is a personal one about an educator's concerns for her students rather than a core reform effort in her school. Instead, the focus of most formal discussion in schools today centers on one question and one question only: How can we raise our test scores?

What I hope is clear in the argument and evidence presented in this paper is that policymakers and the reform community need to work to change the nature of that discussion. In policy terms this translates into the question: What policy mechanisms are available to motivate frontline educators to change their behavior, invest in reform, and focus on the critical outcomes that matter for students? The important policy debate over test-based accountability and high-stakes testing at the high school level has not been a focus of this paper. Nevertheless, it is important to end with a short discussion of the link between these policy mechanisms and the issues at the heart of this paper — the need to improve high school graduation rates, college access, and levels of college preparedness in urban school systems.

Most major school systems are currently experiencing two simultaneous and potentially disparate policy initiatives aimed at high schools. First, New York, Chicago, and Boston, for example, are moving to create smaller learning communities and new schools in the hope that they will offer opportunities for educators to solve problems together, invest in innovation, and provide the capacity and flexibility they need to change. We need to understand more about whether this reform approach is accomplishing that objective. But in most high schools, test-based accountability is the central policy mechanism that is providing incentives, signaling to educators what matters, and driving practice. Most states have strong test-based accountability in some high school grades linked to No Child Left Behind and many have adopted high school exit examinations.

One way of discussing the impact of accountability approaches is to ask: Is there evidence that test-based accountability and, particularly, high-stakes testing that links graduation from high school to tested achievement will either worsen or improve graduation rates and college preparedness? Research on earlier high school minimum competency testing initiatives in the 1980s found that such policies had moderate effects on achievement but negative effects on dropout rates.[78] The jury is still out on the effects of newer initiatives. Some studies have found that more recent high-stakes testing efforts had negligible to positive effects on school dropout and achievement.[79] There has been significantly less research on the effects of school-based accountability initiatives such as No Child Left Behind. So, in the end, it is unclear whether test-based accountability will lead to higher graduation rates and test scores and whether these will actually translate into other measures of performance. Another way to frame an analysis of accountability is to ask: Do we think that test-based accountability will lead educators to focus on the set of outcomes, skills, and supports needed for high schools to increase on-track rates, improve recovery, increase GPAs, and focus on critical college-readiness skills?

Thinking about the problems in this paper has led me to conclude that test-based accountability will not, in fact, lead high schools in the right direction and will most likely take our eyes off the ball. This is a controversial stand, given the evidence that I have presented. During an era of test-based accountability, Chicago elementary schools improved rapidly. It would be easy to conclude that what worked in elementary schools should work in high schools. I would argue, however, that a singular focus on test scores is inappropriate if we are to pursue the outcomes dis-

cussed in this paper. Test-based accountability is a blunt instrument. After nearly two decades of research on accountability, the literature is unequivocal on one point — educators are highly responsive to the incentives and signals created by testing, will align their curriculum to the test, and will spend significantly more time on test preparation.[80] Alignment at the high school level will most likely mean a focus on the core content and basic skills that are covered in standards-based tests. Content alignment and test preparation will generally produce positive effects — test scores might improve — but at the high school level this will lead to illusory progress.

In Illinois, where the state test incorporates a college admissions test, there might be some derivative benefit, in that higher ACT test scores will give students access to better colleges. There is some debate over whether higher test scores on state standards-based exams translate into higher test scores on measures of performance such as the ACT and SAT.[81] Most importantly, test-based accountability will most likely devalue a focus on grades, precollegiate academic skills such as writing and oral discussion, and noncognitive skills, in favor of an emphasis on basic skills and content knowledge that are measured on tests. It will most certainly devalue and take resources away from college guidance and preparation and preventing freshman failure.

Thus, even if the evidence shows that test-based accountability at the high school level moves us forward in solving one piece of the puzzle (test scores), it may not also focus high schools on the other pieces that remain to be put in place. And it may make it much less likely that high schools will pay attention to those critical pieces. The stress of test-based accountability and the demands it will place on high schools will essentially move resources, commitment, and energy away from the two central problems I outlined in this article and toward a focus on raising test scores.

The alternatives, however, are not readily apparent. One approach recently adopted in Chicago is to move to broader and more comprehensive measures at the high school level. Chicago's accountability system for high schools includes measures of the schools' freshmen on-track and dropout rates, in addition to test scores, and a new school-level report card also reports each school's college participation rate, the percentage of students taking Advanced Placement courses, and passing rates in Advanced Placement. We do not yet know how high school educators will respond to those measures and, in particular, whether the stress of state sanctions linked to Adequate Yearly Progress will trump the local accountability system. In the end, if the task for the research community is to invest in identifying the approaches that can achieve the set of outcomes I have outlined in this paper, the task for the policy community is to develop approaches that will create a market for those solutions and new resources to support rather than undermine them.

Endnotes

[1]Perie, Moran, and Lutkus, 2005.

[2]Schneider and Stevenson, 1999.

[3]Unpublished tabulations. The Consortium on Chicago School Research regularly conducts biannual surveys of high school students and teachers. In 2005, a new twelfth-grade survey was added. The results are based on the responses of 8,033 seniors.

[4]In this longitudinal study, we are following juniors in three Chicago high schools from eleventh grade through their second year after high school graduation. The three high schools serve diverse populations of students on the South, West, and North Side of Chicago. All three schools have recently added new International Baccalaureate (IB) programs and Advanced Placement courses. In each high school, half of juniors were recruited from "regular" English classes, one-quarter from honors and AP junior courses, and one-quarter from the new IB programs. As a result, the college aspirations of students in our qualitative sample are higher than those of all CPS students.

[5]Estimates from the October Current Population Survey show that from 1980 to 2002 the percentage of recent high school graduates who were enrolled in college increased from 51 percent to 63 percent and among low-income students from 32.2 percent to 51 percent. The college enrollment of white high school graduates increased more than African-American and, particularly, Latino graduates. In 2002, 66.4 percent of whites, 57 percent of African-Americans, and 54 percent of Latino recent high school graduates were enrolled in college (U.S. Department of Education, Condition of Education, 2005, Supplemental Table 20-1).

[6]Berkner, Chavez, and Carroll, 1997.

[7]These researchers examined the college qualifications of 1992 graduates who were part of the National Educational Longitudinal Study of 1988 (NELS88). They characterized students' "qualifications" for four-year colleges using information on their GPA and class rank, scores on the ACT, SAT, and NELS aptitude test, and academic coursework. Their analysis differs somewhat from our characterization of college access (see Table 3) because they did not use analysis of actual college-going patterns but characterized students by their relative rank. They also used the highest qualification students had rather than the combination of their qualifications. Low-income students were over 30 percentage points less likely than higher-income students to graduate from high school even minimally qualified for college. At the high end, white graduates were more than twice as likely as African-American seniors (35 percent versus 16 percent) to graduate "very or highly qualified" Higher-income students were over two and half times more likely to graduate "very or highly qualified" (U.S. Department of Education, National Center for Education Statistics, 1997).

[8]Adelman, 1999.

[9]U.S. Department of Education, National Center for Education Statistics, 1997.

[10]Of students in NELS88, who represent 1992 high school graduates, fully 24 percent of African-American twelfth-graders and 20 percent of Latino twelfth-graders needed to take remedial reading in college compared with only 7 percent of whites. Less than 40 percent of Latino and African-American twelfth-graders in this 1992 cohort were able to enroll in college without taking remedial coursework, compared with fully 64 percent of whites and 62 percent of Asian students (U.S. Department of Education, 2004).

[11]Allensworth, 2005.

[12]See Figure 4.

[13]See Table 1.

[14]The NSC is a nonprofit corporation that began in 1993 to assist higher education institutions to verify enrollment and degree completion. In 2004, NSC began a new program "Successful Outcomes," which allows high schools to follow their graduates into college. More than 2,800 colleges currently participate in the NSC, covering 91 percent of college students in the United States. The undercount for Chicago graduates is most likely lower than 9 percent, because most colleges in Illinois participate in the NSC and most CPS students enroll in local colleges. See note 56 for an explanation of the potential undercount for Chicago graduates.

[15]See Figure 10. One may argue that these statistics underestimate the proportion of CPS students who may complete four-year degrees, because the estimate is based on six-year completion rates among seniors who entered four-year colleges in the year after graduation. Unfortunately, the City Colleges of Chicago, which the majority of Chicago students who enroll in two-year institutions attend, did not join the NSC until 2000. This prevented us from looking at the progress of CPS students in two-year colleges in the 1998 and 1999 cohorts. However, six-year bachelor's degree completion rates might not be very different if two-year college enrollment was included, because national data suggest that few students (less than 6 percent) who enter two-year colleges complete bachelor's degrees within six years.

[16]In a recent analysis of the Beginning Postsecondary Students Longitudinal Studies, Horn and Berger (2004) compared five-year degree completion and postsecondary persistence rates for the entering classes of 1989-1990 and 1995-1996. They report that there has been little change in five-year completion rates over this period, particularly in four-year colleges, although they found a significant rise in five-year persistence rates — the percentage of students who were still enrolled after five years. This positive trend may indeed result in an increase in bachelor's degree completion in the most recent cohorts.

[17]High aspirations among Chicago students are not only observed among seniors. In the Consortium's 2005 surveys, 75 percent of freshmen stated that they hoped to complete a bachelor's degree or higher and an additional 12 percent hoped to obtain a two-year degree (unpublished tabulations).

[18]For a fuller discussion of how educators' conceptions of the dropout problem deters them from paying attention to dropout rates, see Roderick, Allensworth, and Nagaoka, 2004.

[19]Hess, 1999.

[20]Roderick, Bryk, Jacob, Easton, and Allensworth, 1999; Roderick, Jacob, and Bryk, 2003.

[21]See Miller, Allensworth, and Kochanek (2002) and Allensworth (2005) for a discussion of the high school reform approach in CPS during the second period of reform. Prior to 1996, most CPS students faced few requirements for graduation. The new graduation requirements, aligned with the college entrance requirements of state universities — four years of English, three years of mathematics (algebra, geometry, and advanced algebra/trigonometry), three years of social studies, three years of laboratory science (biology, earth and space /environmental, and chemistry/physics), and two years of foreign language. In the late 1990s, the CPS did embark on a high school redesign initiative, which called for increasing "personalism" and "academic press" at the high school level (Hess, 2004). There was substantial opposition from teachers to this initiative and it never received substantial resources. There was little evidence that these initiatives were implemented in any systematic way and no evidence that school restructuring had a substantial effect on students' experiences in school. Academic probation did have a significant effect on high schools. In 1996, 38 of the 66 high schools were placed on probation. In their study of schools on probation, Hess and Cytrynbaum (2002) and Hess (2004) found no significant improvements in instruction or improvements in personalism in schools on probation.

[22]Bryk, 2003; Roderick, Jacob, and Bryk, 2003.

[23]Allensworth, 2004; Easton, Jacob, Luppescu, and Roderick, 1998; Easton, Rosenkranz, and Bryk, 2001; Roderick et al., 2003. The positive performance of Chicago's eighth-graders has also been reflected in eighth-graders' performance on the state's standards-based exam (ISAT), where in 2004 the average eighth-grader exceeded state norms in reading.

[24]There are several methods of calculating cohort dropout rates. A popular method is to look at the proportion of entering freshmen who graduate four or five years later. However, during the late 1980s, the Chicago Public Schools were retaining high numbers of eighth-graders. Rising retention rates in eighth grade might lead to reductions in high school dropout rates, because some students might drop out before entering high school. For this reason, I present trends in dropout rates by age rather than by grade so that trends were not influenced by the removal of some students from the entering ninth-grade cohort. For a more detailed discussion of various methods of calculating dropout rates, see Allensworth (2005).

[25]The economy in Chicago was improving throughout the 1990s and an influx of immigrants changed the racial and ethnic composition of Chicago's students. The 1996 reforms also brought larger initiatives in school infrastructure, governance, and expansions of magnet programs and schools, as well as the opening of new

charter schools that offered more options at the high school level. And beginning with the 1996-1997 cohort, high school students were asked to complete a much more rigorous program of study; many critics predicted it would force students to drop out. Finally, while eighth-grade test scores improved during this period, the policy to end social promotion led to a dramatic increase in the proportion of eighth-graders retained, from less than 1 percent to approximately 10 percent a year. Allensworth (2004) estimated that students who were retained under Chicago's policy faced an increased risk of dropping out, but that the rise in dropout rates among the lowest-achieving students was more than offset by reductions in dropout rates attributed to increased achievement, leading to a net reduction in dropout rates.

[26]Allensworth, 2005; Allensworth, 2004; Miller, Allensworth, and Kochanek, 2002; Roderick, Allensworth, and Nagaoka, 2004.

[27]Allensworth, 2005.

[28]Allensworth (2004) found that for students who faced low probabilities of retention, those with eighth-grade test scores above the promotional gate cutoffs showed little change in the probability of dropping out during this period, although test score increases meant that more and more students were entering achievement categories with lower probabilities of dropping out. This was not true for eighth-graders with very low test scores, those who faced high probabilities of grade retention. Allensworth (2004) estimated that there was a significant shift upward in the likelihood of dropping out for students whose test scores placed them at risk of grade retention. This finding is quite consistent with prior research that students who enter high school overage for their grade are more likely to drop out.

[29]Between the 1998-1999 and 2001-2002 school years, dropout rates by age 16 declined from 16 percent to 11 percent (see Figure 4). In the previous years, reductions in dropout rates by age 16 were associated, on average, with increases in the proportion who graduated by age 19. If we do a crude analysis and simply use past trends to project out, we would predict that an 11 percent dropout rate by age 16 would lead to a graduation rate of approximately 59 percent by age 19.

[30]Roderick and Camburn, 1999.

[31]The on-track indicator uses both failures in core subjects and core credit accumulation, because in order to graduate, students need both to accumulate the minimum number of credits (24) and pass specific courses in the major subject areas. This is a minimum indicator of freshman year performance, because even if a student accumulates only five full credits in all his courses and fails one semester core course, he will still need to make up both that credit and even more credits to graduate (Allensworth and Easton, 2005).

[32]Allensworth and Easton (2005) estimate that, even after controlling for the demographic characteristics and entering test scores of freshmen, the predicted probability of graduation was 55 percentage points higher (81 percent versus 26 percent) for a student who was on track versus off track at the end of freshman year.

[33]Roderick, 2003; Roderick and Arney, 1997; Roderick and Camburn, 1996.

[34]Kemple, Herlihy, and Smith, 2005.

[35]Kemple, Herlihy, and Smith, 2005; Kemple and Herlihy, 2004.

[36]Kemple, Herlihy, and Smith, 2005

[37]Over the course of the 2001, 2002, and 2003 school years, 26,301 students dropped out of Chicago Public Schools, excluding students enrolled in alternative high schools or in juvenile justice facilities. Five percent of these students had 20 or more high school credits and an additional 10 percent had between 15 and 19 credits. Most of these students with high school credits left school at age 18 or older. These are students, then, who are close to the 24 credits they need for graduation, have demonstrated a capacity for high school-level work, and had attained at least junior year status. These may be students who, because of premature transitions to adulthood, such as work or child care responsibilities, are having problems attending school full time. They may also be students who, because of earlier failures, are having problems making up credits for previous grades that they need for graduation. This small but important group may need alternatives, such as flexible schedule high schools, the ability to attend part time, and the ability to take courses across grade levels to graduate (nonpublished tabulations).

[38]Looking again at the 26,301 students who dropped out of CPS over the course of the 2001, 2002, and 2003 school years (see previous note), 46 percent of dropouts had accumulated less than five high school credits and an additional 24 percent had between 10 and 14 credits. These dropouts had low credit accumulation, even though most stayed in school until age 17 or older. Approximately 30 percent of dropouts in these years left school during the year they turned 17, and 40 percent left school during the year they turned 18 or older. Thus the combination of high rates of failure in ninth grade and low recovery from failure means that most dropouts had accumulated few credits, even though they stayed in high school for several years (Consortium on Chicago School Research, unpublished tabulations).

[39]Dorn, 1996.

[40]Goldin and Katz, 2001.

[41]Dorn, 1996.

[42]Graham, 1993; Powell, 1996; Powell, Farrar, and Cohen, 1985; Ravitch, 1983; Sedlak, 1986; Wraga, 1994.

[43]Rury, 2002.

[44]Rury, 2002.

[45]Angus and Mirel, 1995, 1999; Powell, Farrar, and Cohen, 1985.

[46]Levy, 1987; Rumberger, 1981.

[47]Boyer, 1983; Powell et al., 1985; Sizer, 1984.

[48]U.S. Department of Education, 2003, 2004.

[49]ACT, Inc, 2004; Berkner, He, Cataldi, and Knepper, 2002; Chen, 2005; Rose and Betts, 2001; Warburton, Bugarin, and Nuñez, 2001.

[50]The U.S. Department of Education regularly reports on course-taking trends in high school. Over the past 20 years, there have been significant improvements in the percentage of students taking more advanced coursework. For example, the percentage of high school graduates who have completed a course on the level of Algebra II increased from 26 percent in 1982 to 45 percent in 2000. African-American and Latino students are significantly less likely to be in higher-level courses, but there have also been substantial improvements in the percentage of minority students taking middle-level science and mathematics courses and in the enrollment of African-American and Latino students in Advanced Placement and honors courses (U.S. Department of Education, 2003, 2004).

[51]American Diploma Project, 2004.

[52]American Diploma Project, 2004.

[53]Cloud, 2001; Fleming and Garcia, 1998; Kohn, 1999.

[54]As noted, an advantage of our research in Chicago is that we are able to look at performance on the ACT for the class of Chicago juniors, not just those who are planning to attend college. At the same time, we are relying on students' scores their first time taking the ACT, which may lead us to underestimate the ACT scores that students who attended college ultimately relied on for admission. We use the ACT scores students obtained when they took the Prairie State Achievement Exam in the spring of their junior year. Some students may decide to retake the test again. In general, students' scores on the ACT improve the second time they take the test. Unfortunately, we do not know how many students in Chicago retake the ACT or the extent to which their scores might improve.

[55]Roderick et al., 2006.

[56]The National Student Clearinghouse (NSC) collects college enrollment data on 91 percent of students enrolled in college in the United States. This does not mean that our analysis fails to capture 9 percent of CPS students who are enrolled in college. This is because most colleges in Illinois participate in the NSC and, at present, most CPS students attend colleges in Illinois. In order to get an estimate of how many CPS graduates who enroll in college we may miss by using NSC data, we compared the list of colleges that participate in the NSC to colleges that CPS seniors reported they would be attending when they completed the CPS's new senior exit questionnaire in May of 2004. In this online questionnaire, CPS students were asked to report whether they had been accepted to a college, and which college they planned to attend. From this information, we were able to estimate the number of students planning to attend a college not included in the NSC data. At the high end,

the NSC data will miss approximately 5 percent of CPS graduates who may be enrolled in college. Thus, it is possible that 64 percent, not 59 percent, of the 2002 and 2003 CPS graduates were enrolled in college within one year of graduation. The colleges that CPS students planned to attend that do not participate in the NSC are primarily local proprietary and technical institutions (Roderick at al., 2006).

[57]We do not have estimates from other large urban school districts that would allow us to compare the college outcomes of CPS graduates with a comparable group of students in a different city. There is also no national tracking system that provides comparable information for a nationwide cohort. We do have two important sources to help place these results in context. First, we can obtain an estimate of national college participation rates from a yearly survey conducted by the Census Bureau as part of the Current Population Survey. Second, we have an Illinois comparison based on data from the Illinois Education Research Council (IERC), which has been following the college participation rates of the Illinois graduating class of 2002, using data from the NSC. The national and Illinois estimates are based on fall enrollment. If we look at the percentage of CPS graduates who enrolled in a college in the NSC by the fall after graduation, African-American students in CPS were as likely as African-American students in Illinois to enroll in college (52 percent) and less likely than estimates of participation for African-Americans nationwide (58 percent). The comparable numbers for white students, based on fall enrollment, are 63 percent for CPS, 67 percent for Illinois, and 68 percent for the nation. Among Asians, the comparable numbers are 75 percent for CPS, 77 percent for Illinois, and 74 percent using national estimates. Because our national estimates are based students' self reports, we expect that the national to CPS comparison overstates the actual difference in college enrollment between Chicago students and their similar racial/ethnic counterparts nationally (Roderick et al., 2006).

[58]Latinos in CPS were significantly less likely (41 percent) to be enrolled in college in the fall after high school graduation than Latinos in Illinois (46 percent) and Latinos nationally (56 percent). See Footnote 57 for a description of the source of our Illinois and national estimates.

[59]One of the most popular ways to rate colleges is by national college ranking systems such as *U.S. News and World Report* and *Barron's Profiles of American Colleges*. These college ranking systems use data on the academic qualifications of entering students and the percentage of students who get accepted. The Barron's selectivity system, which we use in this report, uses information on the average ACT or SAT scores, GPA, and class rank of incoming students, as well as the percentage of students who are accepted. In our analysis, we combined Barron's three top categories (very, highly, and most competitive) into a combined top category (very selective). For students in Illinois, very selective colleges would include schools such as the University of Illinois at Urbana-Champaign, the University of Chicago, and Northwestern University. Selective colleges include the University of Illinois at Chicago, DePaul University, and Loyola University. Less selective colleges include several large public universities, such as Chicago State University, Northern Illinois University, and Southern Illinois University-Carbondale. Finally, nonselective colleges in Illinois include Northeastern Illinois University, DeVry University, Columbia College, and Roosevelt College.

[60]Latino seniors' reports of their own and their parents' aspirations do not suggest that Latino students in CPS have significantly lower aspirations. In our recent 2005 Consortium survey, only 9 percent of Latino seniors versus 7 percent of African-American seniors stated that they planned to only graduate from high school. Latino seniors were less likely, however, to report that they hoped to complete a four-year degree. Only 70 percent of Latino seniors in our 2005 surveys stated that they hoped to complete a bachelor's degree or higher, compared with over 80 percent of African-American and white seniors. Latino seniors were nearly twice as likely as African-American and white seniors (21 percent versus 12 percent and 11 percent, respectively) to state that they hope to obtain a two-year or technical degree. Thus, differences in CPS Latino seniors' aspirations may help explain their higher concentration in two-year colleges but cannot explain their significantly lower college enrollment rates in comparison with their African-American and white and other ethnic classmates. Most importantly, Latino seniors were only slightly less likely than African-American and white and other ethnic students to report that their parents wanted them to go to college. When asked, "What do you think your parent or guardian wants you to do next year?" fully 84 percent of Latino seniors in CPS versus 89 per-

cent of African-American and white and other ethnic students reported that their parents wanted them to go to college (Consortium on Chicago School Research, unpublished tabulations).

[61]Roderick et al., 2006

[62]One explanation for the differences in students' performance between eighth grade and eleventh grade is that the Iowa Test of Basic Skills (ITBS) is "easier" and not comparable to the ACT. Over the past several years, Chicago 13- and 14-year-olds have taken three tests. In eighth grade, they have been required to take the ITBS and a state standards-based test, the IOWA. And at the beginning of ninth grade, high schools have been administering the PLAN, a test developed by ACT that is supposed to predict performance on the ACT. A Consortium analysis of test data shows that Chicago students are performing quite comparably on these three tests, as measured by the percent at national norms (ITBS), the percent of students meeting state standards (IOWA), and the national percentile rank (PLAN) (Unpublished tabulations).

[63]The GPA and ACT cutoffs that we used are generally lower than the definitions used in college ratings such as Barron's and other existing rubrics to measure qualifications. We use a lower cutoff for two reasons. First, college ratings reflect median or average scores of the entering class, not the minimum students need, and CPS graduates may tend to fall at the low end of each college's distribution of acceptable ACT scores and GPAs. Thus, we based the rubric on the actual college-going patterns of CPS graduates. Colleges may also weigh other measures more heavily than simply test scores when admitting students who are minorities. Second, we are using students' ACT scores in their junior year and some students may retake their ACT. Thus we expect that we are underestimating some students' ACT scores used for college admissions. Our cutoffs also roughly align with the admissions requirements of in-state public universities and, as a check, generally predict the college-going patterns of CPS students.

[64]See footnote 60.

[65]Among the CPS graduates who attended a four-year college in the NSC in these cohorts, 74 percent attended a college that also reported diploma data to the NSC. Colleges for which we have graduation data tend to be slightly higher on quality indicators, suggesting that our estimates of completion are most likely overestimates of the overall graduation rates from four-year colleges (Roderick et al., 2006).

[66]Berkner, He, Cataldi, and Knepper, 2002.

[67]In 2002, juniors in CPS took the TAP in tenth grade and the ACT in eleventh grade. This overlap in test administration allows us to gauge how similar students' performance would be on both these tests. Students' scores were highly correlated (.86) which suggests that TAP is a good proxy for students' overall achievement, as would be indicated by the ACT.

[68]Braddock and Dawkins, 1981; Noble and Sawyer, 2002.

[69]Roderick et al., 2006.

[70]Bishop, 1990; Rosenbaum, 2001.

[71]Venezia, Kirst, and Antonio, 2003.

[72]Achieve, Inc., 2005.

[73]Cabrera and LaNaza, 2000; Gonzales, Stoner, and Jovel, 2003; McDonough, 1997.

[74]Ferguson, 1994; Howard, 2003; Wimberly, 2002.

[75]Bryk et al., 1998; Lee, Smith, Perry, and Smylie, 1999; Phillips, 1997; Shouse, 1996.

[76] Watt, Powell, and Mendiola, 2004.

[77]The "Christmas tree" label was developed by Anthony Bryk, Penny Sebring, and my colleagues at the Consortium to describe schools that put in a lot of programs that look shiny and bright but are disconnected (Bryk et al., 1998).

[78]Catterall, 1987, 1989; Fredericksen, 1994; Griffin and Heidorn, 1996; Jacob, 2002; Kreitzer, Madaus and Haney, 1989; MacMillan, Balow, Widaman, and Hemsley, 1990; Magino and Babcok, 1986; Winfield, 1990.

[79]Carnoy, Loeb, and Smith, 2003, p. 147.

[80]Firestone, Mayrowetz, and Fairman, 1998; Fuhrman, Clune, and Elmore, 1991; Jones, Jones, and Hargrove, 2003; Koretz, Barron, Mitchell, and Stecher, 1996; Merhens, 1998; Roseholtz, 1987; Rowan, 1996.

[81]Amrein and Berliner, 2002.

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Founded in 1974 and located in New York City and Oakland, California, MDRC is best known for mounting rigorous, large-scale, real-world tests of new and existing policies and programs. Its projects are a mix of demonstrations (field tests of promising new program approaches) and evaluations of ongoing government and community initiatives. MDRC's staff bring an unusual combination of research and organizational experience to their work, providing expertise on the latest in qualitative and quantitative methods and on program design, development, implementation, and management. MDRC seeks to learn not just whether a program is effective but also how and why the program's effects occur. In addition, it tries to place each project's findings in the broader context of related research — in order to build knowledge about what works across the social and education policy fields. MDRC's findings, lessons, and best practices are proactively shared with a broad audience in the policy and practitioner community as well as with the general public and the media.

Over the years, MDRC has brought its unique approach to an ever-growing range of policy areas and target populations. Once known primarily for evaluations of state welfare-to-work programs, today MDRC is also studying public school reforms, employment programs for ex-offenders and people with disabilities, and programs to help low-income students succeed in college. MDRC's projects are organized into five areas:

- Promoting Family Well-Being and Child Development
- Improving Public Education
- Promoting Successful Transitions to Adulthood
- Supporting Low-Wage Workers and Communities
- Overcoming Barriers to Employment

Working in almost every state, all of the nation's largest cities, and Canada and the United Kingdom, MDRC conducts its projects in partnership with national, state, and local governments, public school systems, community organizations, and numerous private philanthropies.